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Medical, Surgical and Obstetrical Report

of the

Emerson Hospital

1907 to 1911 inclusive

Forest Hills, Boston

For circulation exclusively in the Medical Profession

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UNIV. OF MICH.

EMERSON HOSPITAL — NURSES' HOME BEYOND.

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MEDICAL, SURGICAL AND OBSTETRICAL REPORT

OF

THE EMERSON HOSPITAL

FOREST HILLS, BOSTON

1907 TO 1911 INCLUSIVE

FOR CIRCULATION EXCLUSIVELY IN THE MEDICAL PROFESSION

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MEDICAL, SURGICAL AND OBSTETRICAL REPORT OF THE EMERSON HOSPITAL

FOR THE FIVE YEARS 1907–1911 INCLUSIVE

THIS report takes up the record where the last one left off, January 1, 1907, and brings it down to January 1, 1912, five years. Its purpose is exactly that of the previous reports, namely, — to show a complete record of work accomplished, and to serve as a means of recording some unusual and interesting cases which are worthy a permanent record. It is published for circulation exclusively in the profession, after the manner of the previous surgical reports issued by Doctor Emerson, is accurately and carefully compiled, and taken in connection with the two previous reports published by the Hospital, is a complete record of every case treated in the Hospital since it opened.

The writer wishes to call attention to several features of this report which seem worthy of special mention.

First and foremost it is a medical and surgical report pure and simple, and tells, both in text and summary, exactly what has been done, so far as such a report can tell it. It shows to what extremes the writer has gone to conserve the ovaries and preserve the ability to bear a child, and of all this more may be found in another part of the text where some of the reasons for our increasingly steadfast belief in such conservation are put forth. This report

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really tells somewhat in detail, even in summary, what has been done. It also indicates that we accept cases whose termination will be fatal. There seems a prejudice in all hospitals against such cases, with which prejudice we have never had any slightest sympathy.

To us it seems as if such a report should make the profession do a whole lot of thinking about hospitals and hospital conditions as at present conducted. All the work was done entirely under the control and management of physicians. No super-wise lay board has been necessary to make external conditions and instruct us how to do the work. We believe that if we are able to diagnose and care for these cases with reasonable success, we are also capable of conducting them to a successful conclusion without the supervision of a body of laymen. All this work has been done with an eye single to the welfare of the patient and with absolutely no other interests involved.

We proffer this record together with the two preceding ones as an indication of what can be done independently, and we think it proves conclusively that a hospital can be conducted by physicians alone. We hope that a larger hospital will be started some time under similar auspices in which competent physicians, regardless of isms or schools, will be allowed to conduct their own cases exactly as they are here. The only safeguard such a place will need to insure its complete and permanent success is that it be conducted with equity, giving to each and every physician a like opportunity, and to every patient the particular re-

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quirements which his case demands, and that it then be kept free from professional incompetents who might use it as a cloak for their own deficiencies.

In publishing this report it would not be fair to us were we to allow conclusions to be drawn from the bare statistics without some explanation.

A number of the fatal cases were admitted to the hospital knowing at the time of admission that they would not leave alive; in other words, they were admitted for the purpose of going to the end under favorable and selected conditions. Several of these cases had been operated by operators other than ourselves, and yet when a secondary development of cancer occurred, there was no place where they could be admitted and cared for because hospitals do not like such cases. It has always been a condition not understood by us, why most hospitals decline to admit such cases which are going to end fatally. It seems to us that no place in the world is so fitted to properly care for such cases as a hospital, and unless there is something about the given case which makes it intolerable to the other patients in the hospital, I fail to understand the disinclination of hospital, both public and private, to admit such cases. At any rate we have no such feeling, and a number of these cases, as indicated elsewhere, were admitted with full recognition that they would never leave the hospital alive. One does not care to have patients presented in a moribund condition — and they should not be so sent to any hospital — yet patients should not be denied the privileges and comforts of

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a well-equipped and well-conducted hospital because they are so afflicted that death will bring the only relief.

With these preliminary remarks, sincere thanks are extended to all those who have lent their support to the success of the Hospital.

From much observation and experience and some experimentation we believe we have developed a method for the after care of abdominal cases which has proved in our own hands superior to anything we have tried heretofore. We have always felt that the frightful thirst which succeeds such operations should not be emphasized by refusing all liquids, and especially water, and are now convinced that such deprivation is entirely unnecessary. For two or three years we have been giving our patients inhalations of cider vinegar as soon as the anesthetic was withdrawn. This is continued until the patient leaves the operating room and we believe that it is of some benefit in relieving the subsequent nausea and vomiting.

As soon as the patient is in bed, after leaving the operating room, a high hot enema of four ounces of olive oil is given to be retained. At the end of four hours a high enema of one pint of normal saline solution at a temperature of 110 degrees is given to be retained. This is followed in half an hour by a low soapsuds enema. In four hours the high enema of saline is repeated, followed in half an hour by a soapsuds enema. This is continued until the patient passes gas spontaneously, which takes place, with rare exceptions, in from twelve to twenty-four hours. If the

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operation has been a protracted one or the patient is badly shocked, a drip enema of saline at the rate of from twenty to forty drops a minute is given and continued until a quart has been used. As soon as the patient has recovered sufficiently from the anesthetic she is allowed cold water, bits of ice, ginger ale or champagne. Where nausea and vomiting are excessive, frequently a whole glass of cold water is allowed at one draught, when it is often regurgitated, practically washing out the stomach, and very often this is the practical end of the vomiting. Nux vomica 3x is given as a routine remedy unless something else is subsequently indicated. No preliminary drug preparation is made for these operations; in fact where we can control the whole situation it is absolutely forbidden. We believe that strychnia and the various drug preparations of passing popularity are entirely unnecessary. We not only believe this theoretically, but we believe it practically from consistent results. In the average abdominal case it is a comparatively rare thing for the almost intolerable discomfort to continue beyond twelve or fifteen hours. Where an anticipatory drug preparation is used, succeeded by morphia after the operation, the extraordinary discomfort due to the operation is prolonged for from forty-eight to seventy-two hours or even beyond. There is no drug that can counteract the inevitable suffering following an abdominal operation. The method best adopted to overcome this is to restore so far as is possible at the earliest possible moment, the regular functionating of the offended

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organs as they are adapting themselves to new conditions. We condemn wholly and without reservation the various plans for the preparation of a patient for operation which are based upon drug preliminaries. There is absolutely no consensus of opinion among even the most experienced men in the world about this subject and the casual and infrequent operator accepts the word of some more or less prominent master and administers a certain routine because it has been recommended by someone of greater experience, and never submits to practical analysis exactly what it means. Moreover, a very great proportion of the less experienced operators will not take for themselves the opportunity to determine just what does happen in the after-care of patients if they deviate from an accepted routine. It goes without saying that no routine drug administration can possibly fit all patients; therefore we are glad of the opportunity to record ourselves as opposed to it and we have satisfied ourselves from definite concrete results as well as comparative ones that the simpler and less complicated the methods of after-care for all operative procedures can be kept, the greater will be the efficiency of such methods.

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APPENDICITIS

THIS report includes three hundred and eighteen cases operated upon primarily because of the condition of the appendix, and of these, two hundred and five were acute cases. Of the three hundred and eighteen, eight were fatal, all of the fatal cases occurring among the acute cases, and none among the one hundred and fourteen intercurrent cases. As in all series of cases embracing any considerable number the accompanying summary will show that there was a very varying variety of complicating conditions accompanying many of these cases. Of the two hundred and five acute cases, one hundred and thirty or about five-eighths were uncomplicated cases of appendicitis, of the other three-eighths very diversified lists of complications were present and were dealt with at the same time. This means that the appendix was undergoing an acute process of such a character that an operation was precipitated, but in many of these cases the appendix was not the primary offender, and the accompanying conditions were the original cause of the depreciation in the appendix.

This report is satisfactory in showing how much more promptly such cases are dealt with than formerly, and I have no doubt that the favorable showing made in such a

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number of cases is due, at least in part, to the promptness with which they were offered for operation after the acute attack began. It is urged as forcefully as possible that as soon as it can be determined that the damage to the appendix has been carried beyond the probability of repair by nature unassisted, the sooner the operation is done the better for the welfare of the patient. Without exception the difficulties are caused by neglect, and also without exception, every fatal case has abundant warnings of the process that is going on, but unfortunately there is nobody to interpret these warnings until too late. Nothing can be more satisfactory than the outcome in these cases of acute appendicitis where they are operated in the midst of an attack but before the appendix has ruptured. The promptness with which a seriously menacing and dangerous condition is transformed into one of safety, and the whole attack interrupted and cut short, is almost like necromancy. All that we have ever written in former reports we unreservedly emphasize in this one.

Two cases at present under care and operated within forty-eight hours of each other, illustrate perfectly what is meant. One was a man sixty-nine years old, who had had much previous indigestion and undetermined abdominal pain apparently of trifling character, never sufficient to warrant an operation. He was, however, under competent observation when a more acute and unmistakable attack developed, and he was operated upon twenty-six hours after the first symptom. The appendix was wrapped up

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in adhesions and had just barely broken down at one point, enough so to give the characteristic odor of a ruptured appendix, and a cigarette drain was inserted, but removed in forty-eight hours. From the very first the attack, so far as it was referred to the appendix, was cut short, and while a slight discharge followed the removal of the drain, the danger was out of the case and a prompt and satisfactory healing took place.

In the other case, a boy ten years old had been having characteristic symptoms of an acute appendix which had continued for several days, and when he was operated, which was immediately upon his arrival at the Hospital, the appendix in its entire length was a gangrenous slough. It was removed, but the infection had approached so close to the intestinal wall that the opening into the intestine was closed with difficulty and with the prospect that a fecal fistula would follow. This is exactly what happened. It was a long and stormy convalescence; a fecal fistula formed and for a fortnight we never felt sure we had this boy safe because of a general infection, and it was several weeks before the wound had healed. In this case we believe the use of a serum was beneficial.

These cases are unfortunate, not alone because they are usually the ones which result fatally, but when the patients have recovered, they are left in wretched condition because of the many adhesions within. They frequently require a secondary operation, either because of the adhesions, which are not without danger in themselves, or

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because of the subsequent hernia, which nobody can prevent in these cases employing long continued drainage. We have had several cases requiring a third operation solely because of adhesions, and we have had several others which required a resection of the bowel, secondary to the primary operation, and have had a large number of cases where a second operation became necessary because of the adhesions left behind.

A recent example was that of a young woman twenty-three years old who had been operated nine years before for a ruptured appendix with an extensive abdominal infection. When we first saw her she was brought to us because of frequency and continuance of a uterine discharge, and we found a pelvis filled with adhesions, exquisitely tender, everything therein fixed, and could advise only an abdominal operation. A curetting for which this patient was brought would have been entirely useless in her case. The operation showed that the tubes and ovaries were bound up in a mass of most dense adhesions and had become so abused that they were hopelessly affected and had to be dug out of a bed of adhesions, mutilated beyond repair, and the best that could be done in this case was to save a portion of one ovary. The adhesions extended throughout the whole of the right side and it required most careful attention to separate from them the different portions of adherent intestines. This whole after-condition was due to an appendix which was neglected, and while the patient lives and has made a splen-

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did surgical recovery, she is frightfully mutilated beyond repair. Such cases could be multiplied almost without end.

One detail of all operations for appendicitis we desire to especially emphasize. A number of cases have presented themselves where an operation for appendicitis has been performed and still the patient was not relieved, but presented a classical picture of a diseased appendix. We have operated upon a number of these cases and found in several an appendix intact and in others a mutilated appendix, but still enough of the appendix left behind to give all the characteristic conditions of an appendicitis. We know that it is not uncommon in suppurative cases to make no effort to find and extirpate the appendix, and we wish to state with emphasis that we do not believe this is good practice. We believe in all cases, and especially in suppurative cases that the remains of the appendix should be found and definitely taken away, closing the opening into the bowel in every instance if it is possible. In some of these cases it is not possible to do this and a fecal fistula is pretty sure to result, but in such cases by proper drainage we can take such precautions that a favorable course will follow. Such cases are difficult for the best of operators but they are comparatively infrequent. A much larger class include the cases where there is a ruptured or sloughing appendix and in too many instances this, or some portion of it, is left behind. In our opinion it is much safer to definitely get rid of all

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remains of such appendices. If left there is an opening by way of the appendix into the intestine and in the subsequent course of suppuration and often severe infection, a constant new supply of infective material is being added from the opening in the bowel. If this, however, is definitely closed one then has difficulty only with whatever infection may be present at the time of operation, and every source of new and continuous infective material is cut off. Therefore we believe that in every case of appendicitis the appendix should be found and definitely dealt with.

It is unfortunate that there is a portion of the profession who will not look at appendicitis from the operator's standpoint, in fact who will not even be present at an operation to actually see what the conditions are. It is absolutely futile and useless to attempt to convince such people that their attitude is wrong, because they do not want to be convinced. They are like one who was shown a perforated and gangrenous appendix which he had declared did not need operating, and after it had been presented to him declined to properly examine it, but still insisted in his declaration that the operation was an unnecessary one, although all of us who were interested in the case believed it would have been fatal without the operation. How can one reason with such a prejudice, which we confess we do not know how to overcome, and with which we have no patience!

The following are reports of some interesting cases of appendicitis.

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No. 5661.[1]

This case was a very remarkable one. The history was that when she was a child eight or nine months old, she swallowed a needle, which was never found afterwards in the stools. At the age of seven years a needle came out through the abdominal wall on a level with and to the right of the umbilicus, through the middle of the rectus muscle, leaving a fistulous opening. This would close for days at a time only to reopen again.

Since the birth of her child six months ago, it has remained open all the time. An incision through the abdominal wall and anterior sheath of the rectus muscle disclosed a remarkable condition. The terminal half of the appendix had been thrust through the posterior sheath of the rectus muscle, was imbedded in the latter, and thence continued through the anterior sheath to the skin, the appendix being drawn out to meet the integument. When the appendix was freed from its bed in the rectus muscle it projected through the small opening in the posterior sheath, but upon enlarging this, very few adhesions were found, and these were all immediately about the opening.

The appendix was removed and the wound closed by first intent.

The inexplicable thing to us about this whole case is —

[1] Not operated in the Hospital and not included in the Summary. Published here for the purpose of recording it.

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how the appendix became thrust through the posterior sheath of the rectus muscle, following the passage of a needle, as the history would seem to indicate.

No. 3156.

This boy was suffering from acute appendicitis. He also had a right indirect inguinal hernia which was not down when first seen by us and which we could not demonstrate. The operation was made, however, by opening over the inguinal canal, and when the latter was opened the sac of the hernia immediately presented itself, containing the appendix. Careful examination showed the hernia had never been a complete one. It had reached through the internal ring and part way into the canal, but never reached the external ring. The appendix was not a casual occupant of the sac but was adherent in the sac itself and constituted the hernial contents. The appendix was removed as was the hernial sac and the ring closed, and a fine convalescence followed.

No. 5544. Age, 20.

This case was rather a remarkable one and is a perfect illustration of what sometimes occurs where pus forms about the cecum. No satisfactory history could be obtained of what led up to a former operation, but conditions were left behind which resulted in an abscess about the cecum. The cecum was completely buried in a mass

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of adhesions from which it was necessary to enucleate it in its entirety. After it was freed from all confining bands, pressure above the cecum forced a blood clot through the rough exterior of the cecum, and this led to the discovery of an opening into the bowel, which at first did not readily show. Investigation showed, however, a ragged opening which, when freed from all surrounding contractions, was large enough to introduce one's thumb. In my experience it was unusual that this opening was not at the site of the appendix, but above it on the anterior aspect of the cecum. The edges of this opening were freshened and the opening closed for primary union. What had occurred was that the abscess about the cecum, having its origin in the appendix, was so thoroughly isolated by adhesions that it finally emptied itself through the cecum, making a hole so large that nature could not close it. It was evacuated, the parts contracted, and there was to all intents and purposes an ulcer here. In my opinion this was the reason that the symptoms simulated those of a duodenal ulcer.

No. 2928. Operation December 8, 1910.

This case was so under the influence of morphia sulp. and strychnia sulp. when first seen by us, that nothing satisfactory could be obtained from her. She was brought to the hospital and further exhibition of both remedies was forbidden. Upon opening the abdomen through the

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right rectus muscle just below the level of the umbilicus, a thickened and inflamed loop of the small intestines came into view. The cecum was then sought and the appendix found to be very badly inflamed, hypertrophied, and bound down by old and well organized adhesions. This was removed. The condition of the appendix was not sufficient cause for the appearance of the small intestines, and further investigation discovered that the ileum about twelve inches from the cecum was also bound down by a broad and dense band of adhesions which surrounded the lower two-thirds of it, and then extended on to the mesentery. This broad adhesive band was very densely organized and absolutely confined the bowel, markedly constricting it wherever in contact with it, and markedly confining the mesentery. The adhesive band was divided until no further constriction remained, and the affected loop of intestines brought out of the abdomen. Here it was seen that at the point of the greatest constriction the vitality of the bowel was practically gone, and while under observation it grew blacker and blacker for a distance of about one and one-half inches of the whole diameter of the bowel. Whether this was due to interference with the blood supply because of extensive breaking up of adhesions over the mesentery could not be determined, but it did not seem wise to return this portion of the bowel to the abdomen, and it was therefore resected and united by an end to end anastomosis. After this was done and before the intestines were returned to the bowel, a marked

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improvement in the color took place, so much so that the bowel was replaced with every expectation that it would recover itself. A cigarette drain was introduced. The patient bore the operation unusually well.

December 9, 1910. Patient passed an unusually favorable night, passing gas quite freely after an enema.

December 10, 1910. Last evening patient passed gas spontaneously and repeated it several times through the night.

December 11, 1910. Passing gas freely and spontaneously.

December 12, 1910. Very restless night with dreams and talking while asleep. Complained of pain in and dryness of throat. She then failed rapidly and passed away early in the afternoon.

This case is published somewhat in detail so that the writer may express himself about such and similar cases. From the strictly surgical standpoint this patient did ideally well. Every post-operative danger expected in such cases was passed favorably according to the strictest surgical requirements. The only symptom which was disturbing to the observer was the character of the pulse; it did not have proper volume. Outside of the usual surgical expectations, however, her condition never was good. She was stupid, incoherent, not easily aroused, and never adequately realized her condition. Her sleep was a stupor rather than a sleep. In fact, all unfavorable aspects of this case were due in our opinion to the excessive use of

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strychnia and morphia. We write now in absolute condemnation of such pre-operative procedures. From whatever view-point one considers them there is no sense in the free and frequent use of these two drugs in surgical cases, and especially are they to be condemned in abdominal cases. In all our experience under no circumstances of any kind whatever have we ever seen a critical surgical case or a surgical crisis made safe by the use of strychnia, and we are positive from our own experience that its use is not only not beneficial, but is positively harmful. In acute abdominal cases morphia only masks a condition which should be allowed to develop itself, and one which if it becomes so intolerable that morphia is necessary, must by that time be presenting clear indications that an operation is the only logical offering for relief. Morphia brings no relief and only serves as a mask. In the case here related we have no question whatever but what the fatal outcome was due to the senseless and excessive use of these two drugs. If at the beginning of their administration operation had been undertaken I have no doubt this woman would have lived. The unfortunate part of such cases is that those who advise against operation and give these drugs so frequently finally give their consent to the operation, and it is undertaken literally as a last resort when it should be undertaken at a time of election.

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No. 2909.

The symptoms in this case were so lacking in characteristics that it was almost impossible to differentiate between the appendix and the gall bladder, and we felt certain both were affected. The pain was excruciating, with extreme pallor. There was slight jaundice and an anxious expression of face. Nausea and vomiting were persistent. Tenderness was marked over the right side from the ribs to the ileum, but especially so over the gall bladder and at McBurney's point, with rigidity of the abdominal muscles. Therefore an incision was made through the right rectus muscle and opened as usual for an appendicitis operation. The appendix was reached through this and found to be badly affected, and of course was removed. The gall bladder was next exposed, opened, and between fifty and sixty stones removed. It was then closed for primary union, as was the abdomen. The relief was immediate and everything healed by first intention. A recovery was so prompt and satisfactory that the patient went to a banquet on the evening of the sixteenth day following the operation.

No. 2463.

For two years has had pain in right side. Left school two years ago because of pain at menses. Menses began at twelve and one-half years; first three or four months had no pain, but has had it since. Irregular, anticipates two

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weeks at times, again goes over two weeks. The pains usually begin several days before flow, and remits after flow is well established. The flow is normal in amount. A year ago she was worse, and an eruption appeared which was said to be due to a streptococcic infection. Face and arms were swollen. Has since been unable to work. If she tried to, the pain in the right side caused her to stop. Five months ago she had another attack like the one a year ago. She has not menstruated since although slight discharge followed a vaginal examination. No further menses appeared until last Thursday, when she had a slight discharge, with very severe pain. At a former examination under ether she was declared to be pregnant. No nausea, no vomiting. The breasts have enlarged some. Appetite good, bowels regular. Urination is painful, and this has occurred with menses for months. She has increased eight inches in girth during the last month. The hips have not enlarged. Profuse leucorrhea since September with bad odor.

Physical Examination: Exquisitely tender over the appendix with splinting of right rectus muscle. Uterus enlarged to about four and one-half months' pregnancy.

The diagnosis was appendicitis acute, and the appendix was removed, and found to be entirely pathological. Although the manipulation was as gentle as possible she miscarried on the fourth day after the operation.

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MYOMATA UTERI

SPECIAL attention is called to the subject of Myoma as recorded in this report. From the beginning of our professional life we have been more absorbed in this particular subject than in any other which interests us. It has always been particularly appealing to us, and we have given it more attention possibly than any other surgical matter. To our minds there is no operation devised which is such a clean exemplar of what modern surgery has done and can do than hysterectomy, either abdominal or vaginal, for the various forms of myomata. Our own constant endeavor has been to reduce the technique of the operation to the very simplest terms, and develop it in such a way that the various parts comprising the whole mechanical problem shall be adequately cared for by procedures which repeat themselves as far as possible in each succeeding operation. In other words, we try to standardize the operation. The key to a repeated success in operations for myomata, whether abdominal or vaginal, seems to me to be a correct understanding of the blood supply. One must keep in mind that the ovarian artery is practically a continuation of the uterine artery or *vice versa*, and that the control of these two arteries before they actually reach the uterus shuts off

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practically the whole blood supply to the latter. It makes no difference whether the tumor in question is small or large; irrespective of size, complete supply is derived solely from the uterine and ovarian arteries. The recognition of this cardinal fact simplifies materially one's conception of the requirements of the operation.

Vaginal Hysterectomy

There seems to be a growing sentiment among operators against vaginal hysterectomy no matter for what it may be undertaken. At one time everything was claimed for it and all sorts of impossible things were attempted, but with the constant reaction it would seem as if it was not only less frequently done, but that indications for it were more and more restricted. For the relief of malignant growths of the uterus too much was claimed for it at one time, and the consequent disappointment may have led to its less frequent use. Where the disease has extended beyond the uterus so that the broad ligaments are thickened or the pelvic glands involved, in our opinion a vaginal hysterectomy is entirely useless. For beginning malignancy of the uterus, especially when confined to the uterine cavity, or an early stage of affection of the cervix, with mobility of the organ, a vaginal hysterectomy is a fitting operation. The ideal application of vaginal hysterectomy, however, is in selected cases of fibroids. Dr. A. Boothby formerly taught this, and early in my experience impressed it upon me that no major operation

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was worthy so much attention and gave such satisfactory results as vaginal hysterectomy for fibroids, and his own personal statistics in support of this assertion were considered remarkable at that time. We believe that no major operation is more satisfactory from beginning to end than a vaginal hysterectomy for a fibroid of the uterus when it is applicable. The only limitations as seen by us are inability to remove the tumor through the vagina because of its size, complications caused by concomitant diseases of the tubes and ovaries one or both, with adhesions, and a diseased appendix. Of course there finally comes a limit to the size of the tumor which can be removed through the vagina, although this limit varies with the mechanical ability of the individual operator. Some of the larger growths, if they can be successfully delivered, will lend themselves favorably to this form of manipulation, sometimes even better than the smaller ones. The broad ligaments are elongated by the growth of the tumor into the abdomen, and when it is delivered through the vagina they accommodate themselves to the downward displacement better than if they had not been so stretched out, thereby making it easy to apply the ligatures. Tremendous force may sometimes be employed in delivering these tumors, especially so when enucleating from within the uterus itself.

Adhesions are well nigh an imperative counter-indication to the completion of the operation through the vagina. When the point is reached where one exchanges definite

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manipulation for indeterminate or blind efforts, the vaginal method would better be abandoned and the operation completed through the abdomen. We never hesitate to proceed from below as far as we think it is safe and then complete the operation from above, since all that is done vaginally lends itself readily to the completion of the operation through the abdomen. Even when in doubt of being able to complete the operation through the vagina, we frequently begin in this way and continue until it is unwise to go further; no matter at what point we cease manipulations from below, whatever has been done helps simplify the rest of the operation from above.

Another class of cases where it is necessary to open the abdomen in order to give relief is where a disease of the appendix is associated with a fibroid. Although the tumor might be readily removed through the vagina, if the appendix were left behind relief would not be obtained and it would still be necessary to open the abdomen to remove the appendix. In some of our earlier cases we found it necessary to do a second operation; hence if the appendix is markedly affected in the presence of a fibroid the abdominal route is the better one. There are also some marked advantages in the vaginal route for fibroids, as patients are less shocked; there is practically no exposure of the abdominal contents; the intestines are not manipulated at all, and as the structures through which the various sections are made are not especially susceptible to pain, as a consequence there is much less after-pain, much

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less intestinal disturbance, and subsequent convalescence is more rapid; the patients do not suffer so long nor so acutely from the first; the post-operative gas pains are not so violent or persistent; and they rally much more quickly from the general results of the operation; there is not the same liability to hernia, and in no case have we ever seen a vaginal hernia following this operation for fibroids. If the detail of the completion of the operation is properly carried out, the vagina is held up on either side by the remains of the broad ligaments, and there is never any material shortening of the vagina. Incision through the abdominal wall and the handling and walling off of the intestines is additional to the vaginal manipulation, all of which otherwise is almost identical with that which constitutes a vaginal hysterectomy. Furthermore the death rate is in favor of the vaginal route.

We believe that liability to infection by the vaginal method is greater than by the abdominal, because the vagina is very difficult to make sterile, and by reasons of its proximity to the anus, infection from without is more liable to occur both at the time of operation and subsequently. Also catgut ligatures of considerable size are buried in non-absorbing tissue and they favor subsequent infection before they are wholly absorbed. We believe these ligatures, which are applied partly *en masse*, are absorbed more quickly and safely, if put in in such a way that they are partly intra-peritoneal, and not entirely buried in tissues which are not able readily to absorb

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foreign matter. Even in such cases we have not seen the infection take a virulent course, nor is the abdominal cavity invaded since the closure of the vagina shuts it off. The danger to the ureters is no greater by the vaginal route than by the abdominal, since they are readily displaced from the immediate field of application of the ligatures. In all of the vaginal hysterectomies we have ever done for whatever cause, in no single instance has a ureter been interfered with in any way. The bladder has been opened three times in making a vaginal hysterectomy, but each time greater care or greater experience could have avoided this accident. Each time it was immediately closed, and in one instance only did it require a secondary operation.

The following two cases are cited as examples of those in which vaginal hysterectomy is the operation of choice:

No. 1831. Age, 39. Figs. 1 and 2.

This patient had gradually become very much of an invalid largely because of extreme loss of blood. This is offered as a case which is ideal for a vaginal hysterectomy. There was a multiple fibroid, making up a mass which nearly filled the pelvis, and was up to the limit of size which could readily be delivered through the vagina, but was not so large that it offered insuperable difficulties. There was no disease of either tubes or ovaries, nor were there any adhesions, and the uterus was freely movable.

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There was some thickening of the uterosacral ligament, as there is apt to be in such cases. A vaginal hysterectomy was made, and the recovery was prompt and satisfactory.

No. 1000. Age, 69. Figs. 3 and 4.

This patient was married forty-five years ago and has had four children, and one miscarriage after the birth of the last child. Her history seems an almost incredible one, but it was all that could be elicited. She was regular until she was forty-five, and kept on flowing occasionally until two years before presenting herself at the Hospital for examination. During the last two years there has been a constant discharge requiring two pads of eight thicknesses every twenty-four hours; sometimes bright and fresh, and at others bloody, watery or yellowish. This has caused considerable excoriation, and during the last few months the odor has been offensive. She has not lost weight, and her appetite has been good. Examination showed a considerable mass with the cervix protruding from the vulva, and a soft but enlarged uterine body above, in which were several hard nodules.

A physical examination showed that this was an extremely exaggerated case. The cervix was at the most dependent portion of an extruded mass which occupied the whole of the entrance to the vagina. Upon investigation this was found to be a complete eversion of the vagina, which contained a much enlarged and very soft uterus,

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together with the bladder and some of the intestines. The rectum did not participate in this decensus. The uterus was about ten inches deep, and the condition was really a complete procidentia of a fibroid uterus which had become degenerate. This had been down for nearly fifteen years and the exposed surface was hypertrophied, everted, raw, and eroded and wrinkled beyond recognition.

The operation made was a vaginal hysterectomy. There were no unusual difficulties in removing the enlarged uterus, except that great precautions had to be taken to avoid hemorrhage. The broad ligaments were very broad and a mass of distended blood vessels. After the uterus was removed the problem was by no means solved, since the everted and relaxed vagina had to be restored. First a wide section was taken out of the anterior wall, going down to the bladder. The anterior wall was then pushed into place and fastened up to the remains of the broad ligament, the cut margins of either side being sewed together by means of silkworm gut. From the posterior wall (which was made up of the vagina lined by the peritoneum, due to the downward distention of Douglas' pouch) was excised a wide section which definitely included all the tissue, vaginal wall and peritoneum. The defect was then closed by accurately opposing the cut margins from above downward, and as they were united they receded into the pelvis, exactly as in an operation for rectocele. The perineum was operated upon as for any ruptured perineum and the parts brought together. The appearance

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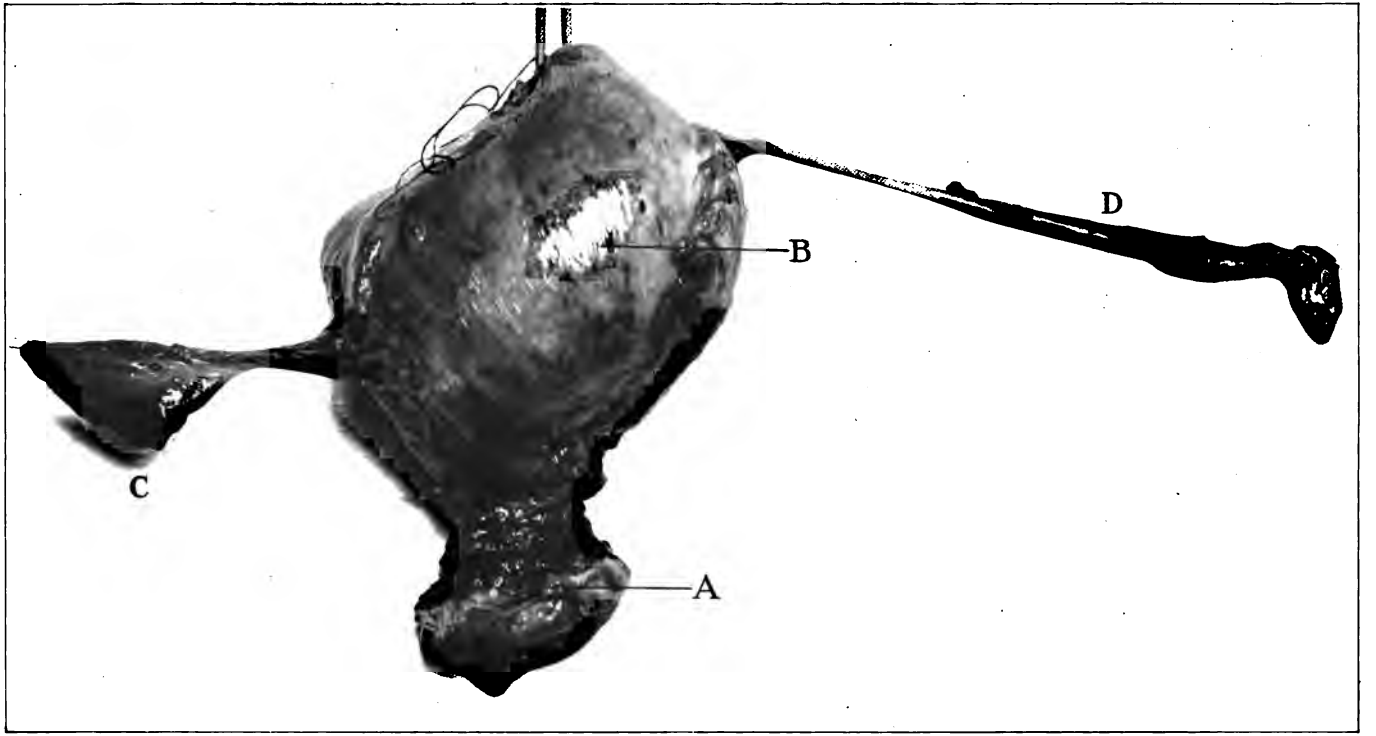

FIG. I. ANTERIOR VIEW.

A — Cervix uteri.
B — Corpus uteri, containing several tumors together making up the mass of the growth.
C — Right ovary and tube.
D — Left ovary and tube. Note the distortion as indicated by the difference of points of junction of uterus and tubes on either side.

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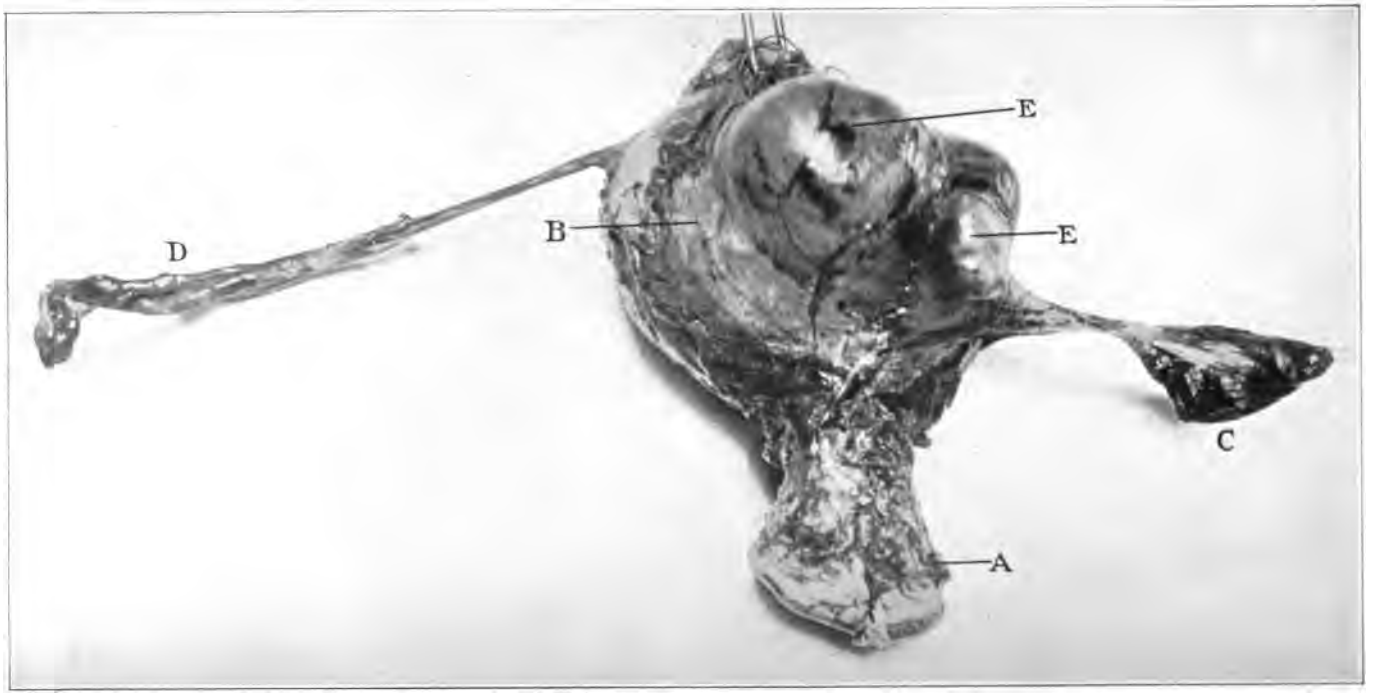

FIG. II. POSTERIOR VIEW.

A — Cervix uteri. B — Corpus uteri. C — Right tube and ovary. D — Left tube and ovary.
E — Individual fibroids, showing as sub-serous growths.

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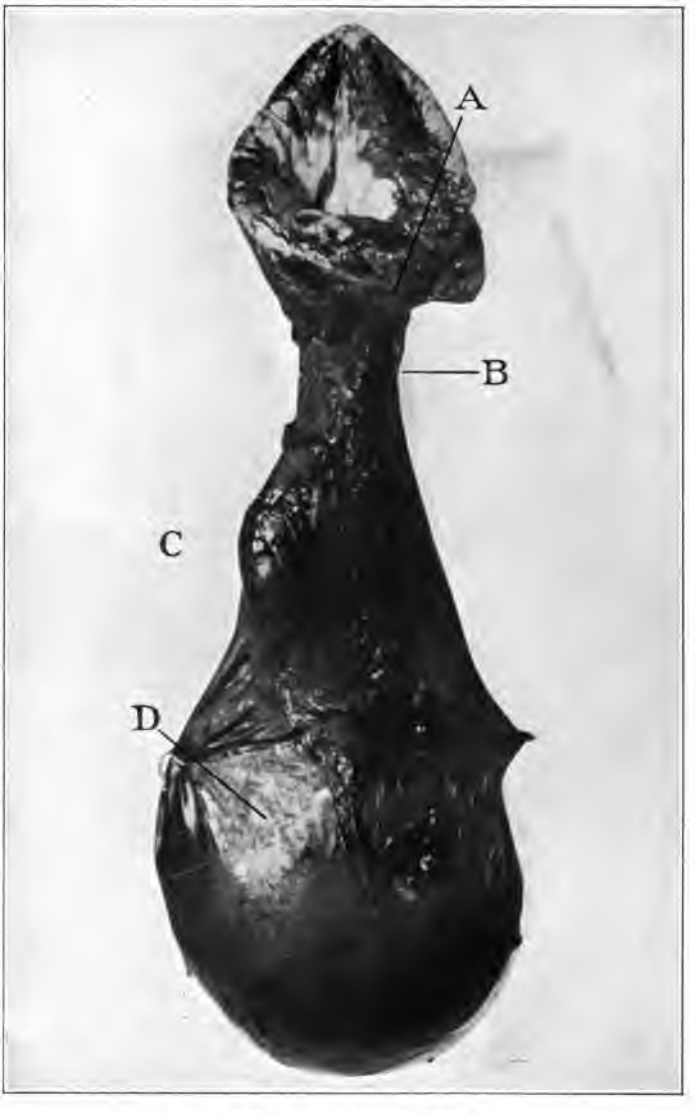

FIG. III. ANTERIOR VIEW.

A — Cervix uteri, much eroded.
B — Narrow neck of the uterus.
C — Small fibroid in anterior wall.
D — Larger fibroid in soft, degenerate tissue.

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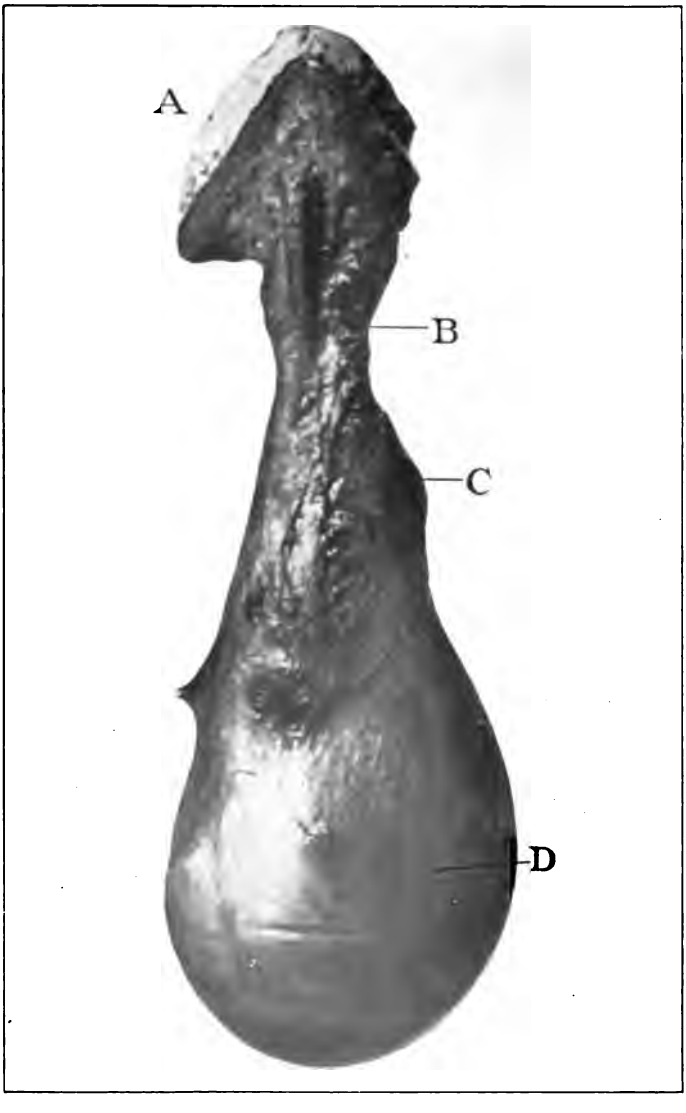

FIG. IV. POSTERIOR VIEW.

A — Cervix uteri.
B — Narrow neck of the uterus.
C — Small fibroid.
D — Loose, characterless tissue surrounding fibroid.

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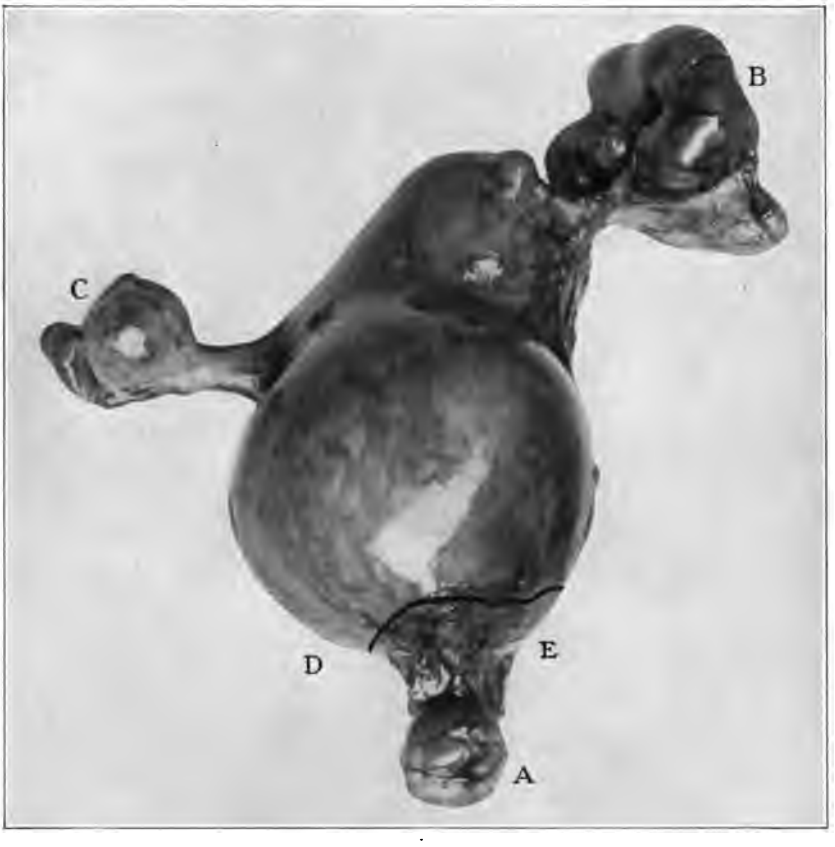

FIG. V. ANTERIOR VIEW.

A — Cervix uteri.
B — Hemato-salpinx, l.
C — Right ovary and tube.
D, E — Line of peritoneal attachment anteriorly.

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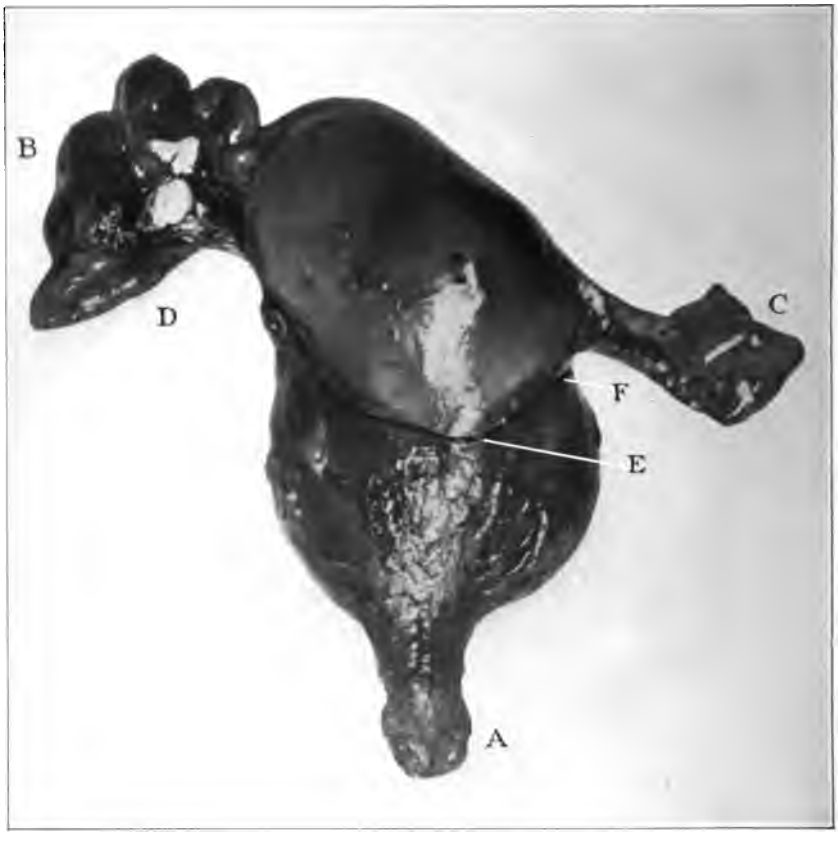

FIG. VI. POSTERIOR VIEW.

A — Cervix uteri. B —Hemato-salpinx, l. C — Right ovary and tube. D, E, and F — Line of free peritoneum posteriorly. All below that line, together with B, was buried in Douglas' cul-de-sac.

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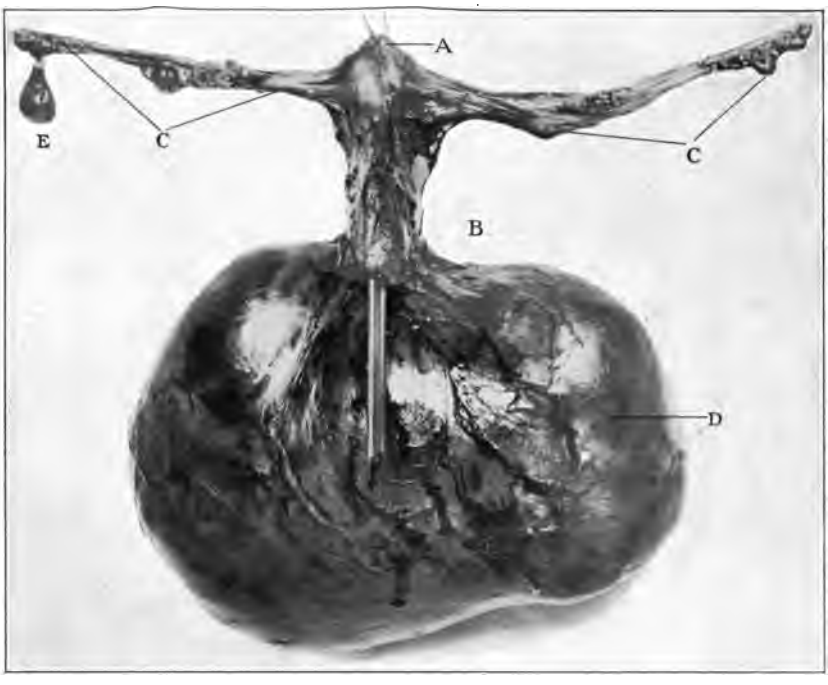

FIG. VII. ANTERIOR VIEW.

A — Fundus uteri. B — Cervix uteri, into which has been passed a glass tube to assist in demonstrating the practically normal size of the uterus. C — Tubes and ovaries. D — Tumor growing from the posterior lip of the cervix. This also shows how remarkably hemorrhagic was the tumor, whose whole blood supply was derived through the attachment to the cervix. E — Cyst of Fallopian tube.

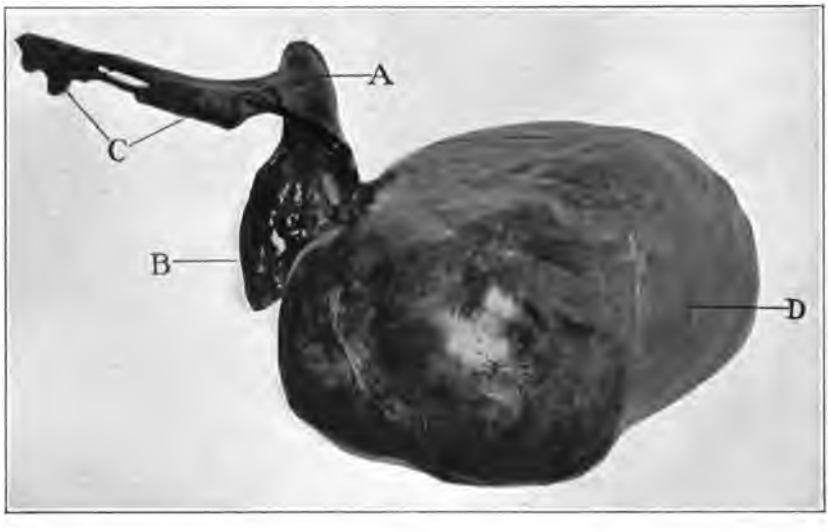

FIG. VIII. LATERAL VIEW.

A — Fundus uteri. B — Cervix uteri. C — Tube and ovary of left side.
D — Tumor growing from posterior aspect of cervix uteri.

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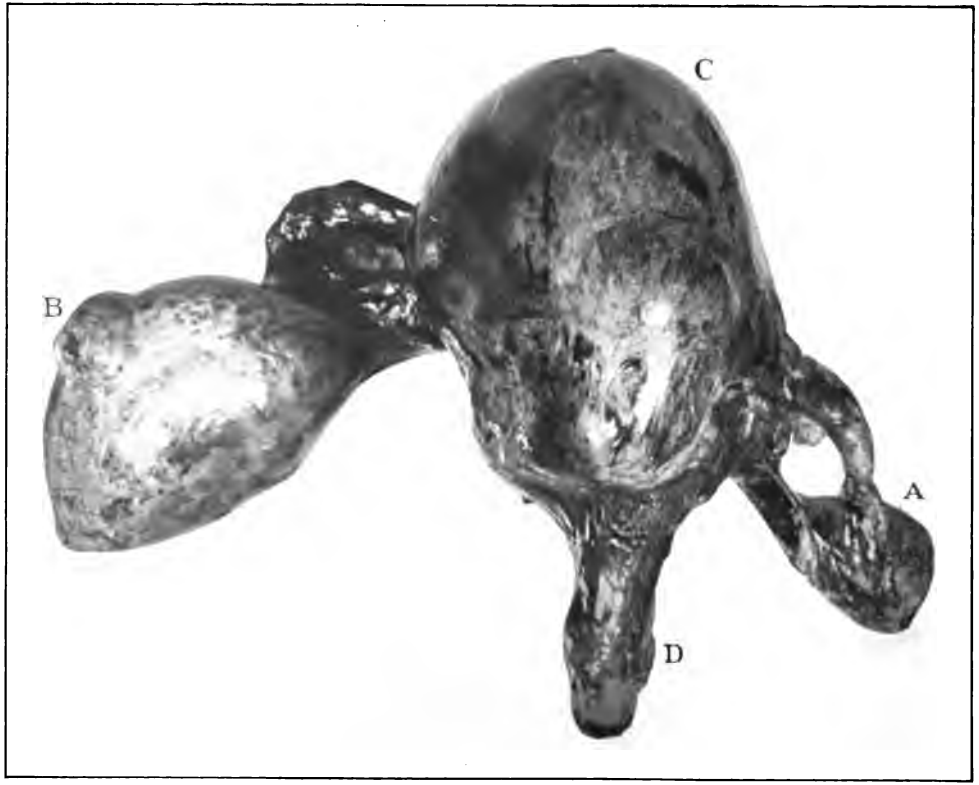

FIG. IX.

A — Right ovary.
B — Left ovary.
C — Fundus uteri.
D — Cervix uteri.

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was then entirely normal. She was catheterized, at first every two hours, then every three hours, and so on until she could go six hours without discomfort. The bladder at first was very intolerant but quickly adapted itself to the change, and her convalescence was as prompt as in any case of similar severity.

No. 995. Age, 38.

This case is an example of vagino-abdominal hysterectomy.

She has had one child fourteen years ago, and several miscarriages. She first noticed a growth in the abdomen six months ago, but for two years before that she had been flowing excessively. She always flowed too freely at the menstrual period, which usually lasted from five to six days, although now it continues from seven to ten days. She was lacerated at the time of childbirth, but the lacerations were repaired at a later date. A very perceptible mass in the abdomen is growing. Examination showed a hard movable tumor filling the pelvis and reaching well into the abdomen. The operation was begun as a vaginal hysterectomy and the tumor was so freely movable that it was hoped it could be removed through the vagina. Upon attempting to open into Douglas' pouch, however, such dense adhesions were found and everything was so indefinite that this route was abandoned and an opening made above. It was quickly discovered that the tumor

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was very adherent by reason of a quite complicated and very adherent hematoma of the left side, and it became necessary to enucleate this before the myoma could be managed.

From this point a classical abdominal hysterectomy was conducted, the only notable thing about it being a very rich blood supply. The accompanying figures 5 and 6 (especially the posterior view) show very finely the extent of the imbedding of the lower tumor in the adhesions posteriorly.

Abdominal Hysterectomy

The following cases illustrate a series especially favorable for abdominal hysterectomy, this operation being — in the opinion of the operator — the finest exposition of modern abdominal technique yet devised.

Considering the operation from the abdominal side, we first ligate the ovarian arteries as they pass through the upper portion of the broad ligament. Before dividing them after the ligature is applied, a provisional ligature of silk is put on to control the quite profuse regurgitant hemorrhage which will come from the cut end of the artery on the uterine side unless it is secured. This means that the force of the blood current through the uterine artery is sufficient to make itself felt very perceptibly in the ovarian artery at the point of ligation. After this division has taken place, no further ligatures are necessary upon the broad ligament until we reach the uterine

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artery. One may, therefore, divide all tissues in the broad ligament all the way down to the uterine artery after the first ligature is applied. This distance will vary with the size and disposition of the tumor. If the latter is a broad ligament growth, after the first ligature is applied it can be immediately enucleated from its bed in the broad ligament until the normal relations of the uterus are practically restored. After such division of the broad ligament, the uterine arteries must be definitely located, and this can always be done. We have never seen a case where the uterine arteries could not be defined with absolute accuracy. One must then keep in mind the relationship of the uterine artery to the ureter. It approaches the uterus at almost right angles and very nearly on a level with the internal os above the attachments of the vagina to the uterus. After the bladder has been separated from the uterus until the vaginal vault has been reached, a lateral displacement of the bladder from the uterus will push the ureters a little outward. This tends to insure their safety and does not mar either the ureters or the bladder. A ligature should then be applied directly to the uterine artery, including its vein or veins, just above the level of the attachment of the vagina to the uterus, and just inside of the ureter. When this ligature is applied on either side, no further ligatures are required, and the tumor together with the cervix may be immediately removed. The vagina should be opened in front of the cervix. This will allow the entrance of a finger into the

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vagina from above, which serves as a guide to complete the excision of the mass. If these uterine ligatures are properly placed, the whole tumor together with the cervix may be removed at once.

The time of the operation up to this point from the moment of beginning the abdominal incision should be from fifteen to twenty minutes in an uncomplicated case; and it will take about the same amount of time to complete the technical detail of the operation. There may be an active hemorrhage from the vagina at either side just below and adjacent to the uterine artery, because in this vicinity the uterine artery gives off vessels of some considerable size to the vagina, and some of these have been injured. It is, however, a very rare thing that a separate ligature is necessary for any of them.

After the tumor is out of the way we would apply a suture of No. 2 catgut to the broad ligament on the left side beginning just below the ligature upon the ovarian artery. With a running suture we then whip together the edges of the broad ligament until the uterine artery is reached, when its stump is buried within the folds of the broad ligament. The suture immediately approaches the vagina from the left side and is inserted so that it controls the hemorrhage from the vaginal arteries which may have been injured here. The vagina is then carefully closed from the left to the right in such a way that there is an absolutely exact coaptation of the cut margin of the vagina.

When the opposite side is reached this suture is discon-

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tinued and a similar suture is then started on the right side symmetrical with the one opposite, traverses a similar course until it reaches the uterine artery, when it is carefully applied in such a way as to secure whatever hemorrhage there may be from the vaginal arteries in this region. The suture is then continued from right to left carefully coaptating the peritoneal margins, each stitch binding the peritoneum to the vaginal vault below. When this has been finished almost no mutilation shows in the pelvis; there is simply a line of suture from the top of the broad ligament on one side to that of the other in the form of an arch. The effect of this suture when properly done is to suspend the vagina on either side to the bases of the broad ligaments; and, as an actual fact, the criticism of the shortening of the vagina after hysterectomy is a technical one rather than a practical one, since we never hear such a complaint.

In all these cases before the regular routine technique of extirpation should begin, all complications must be cleared up. Whatever adhesions may exist must be broken up. If pus tubes with their corresponding adhesions complicate, they must be enucleated; in fact, before the attempt to actually remove the tumor is begun, the normal relationship of the parts should be restored as far as it is possible. If one blindly goes into one of these cases, complicated with extensive adhesions, he is courting disaster. If, however, the complications are thoroughly mastered, thoroughly understood before the attempt at extirpation be-

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gins, what seems apparently the most complicated case may prove a very simple one.

In every case of hysterectomy recorded in the accompanying summary, the operation has been a complete one and the cervix has not been left behind. We are theoretically and practically opposed to leaving the cervix or any portion of it when hysterectomy is undertaken, except in an occasional rare case: the kind of case which may arise in one per cent of a large series. Studied from all possible view-points, we cannot understand the advantage in leaving behind the cervix. The theoretical claims of its value as a seat of sensation we do not agree with, and however this may be true under normal conditions, it certainly loses most all of its value under conditions such as are presented for a hysterectomy. Certainly after the serious mutilation necessary for the supravaginal removal of the uterus and tubes has been completed one could not seriously claim that the cervix left behind could be the seat of initiative of any very keen sensations. Under such conditions, when most favorable, atrophy must and does take place with almost constant frequency, and to our personal knowledge some of these cervices which are left behind, subsequently degenerate into malignancy and require removal. No operation which leaves behind a cervix or any portion of it is a complete operation, and there is absolutely nothing known to the writer which compensates for the possible dangers of leaving the cervix behind. The suggestion that after the body of the uterus

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is removed the core of the cervix be also taken away is without merit and entirely lacks surgical sense or efficiency. With this done what would be the outcome? That portion of the cervix left behind as a mere shell could not possibly keep its form, and would necessarily become a shrivelled and shrunken body without function and of no possible subsequent use. Certainly the mutilation of nerves and vessels incident to the removal of the core of the cervix would destroy whatever theoretical efficiency of the nerves of sensation there might be left behind, and from no viewpoint as seen by the writer is there anything which makes this suggestion attractive.

The suggestion that has been made that embolism, which seems particularly liable to follow the operation of hysterectomy either abdominal or vaginal, is due to the fact that the ligatures are tied too tightly, seems to the writer to be without merit. In no case in which we have been interested, either as operator, associate or assistant, has the suggestion been made that disaster was due to the fact that ligatures were too tight. On the contrary we have frequently seen serious and critical conditions and in one case vital conditions arise from the fact that the ligature was not tied tightly enough; in one case the ligature properly placed slipped off and before adequate assistance could be obtained the patient lost her life. In several others it required the promptest interference in order to prevent a fatal result. The tightness with which the ligature may be tied has nothing to do in our opinion with

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the subject of embolism. The only probable way that a ligature too tightly tied might result in disaster, would be if it severed the vessel, either at the time of its application, allowing an immediate hemorrhage to occur, or so soon after that an intermediate or a secondary hemorrhage occurred. Neither of these conditions have we ever heard of, and we do not believe that a ligature can be tied so tightly that it would result in a subsequent development of embolism.

Where catgut is used, and we invariably employ catgut as the ligating material, there is no slough of the parts embraced in the ligature. After the latter is applied and the tumor is removed, the stump of the vessel embraced in the ligature appears as a rosette, sometimes of quite considerable size. The hemorrhage is perfectly controlled, and immediately a clot forms occluding the vessels from the ligature back to the branch next given off from the main trunk of the vessel. All of those who have studied the matter know what takes place, and if embolism subsequently occurs it is only after the lapse of several days, five or six, and it does not have its origin from the direct seat of the ligature, but from the part of the blood clot most remote from the ligature, but adjacent to the live blood stream. What then has a tight ligature to do with this process? As to the ligature itself, the writer theorizes that after this clot is firmly established, and within a few hours of the application of the ligature, the strangulating effect of the ligature decreases so that all the parts affected

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are never wholly devitalized. They therefore quickly adapt themselves to the changed conditions and immediately undergo a reparative process whereby they are eventually healed without actual loss of tissue because of any effects of the ligature. In their final and permanent state, whatever absorption may take place is by a slow process whereby they are merged into their new surroundings in a perfectly innocuous manner, and a later examination of the site of mutilation after permanent repair takes place shows no trace of the ligature and no distortion due to its application. The writer has had abundant opportunity to observe these results at subsequent operations, both in his own cases as well as those of other operators. Similar and confirmatory results may be observed at the site of the ligature applied to the meso-appendix after operation for appendicitis.

CASES

No. 1892. Age, 44.

This patient notes that she has had the trouble for six or seven years, the worst difficulty being pain in the back. There was not much increase in size in the abdomen, but there was a constant desire to urinate every fifteen minutes through the day, and she was obliged to be up six or seven times at night. For the last two years she has been very irregular in flow, which had not been excessive. Examination showed a hard tumor lying low in the pelvis, completely filling it, and which could not be

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dislodged from the pelvis. The operation undertaken was abdominal hysterectomy, and the case is reported because of the remarkable disposition of the tumor. It grew from the posterior wall of the cervix, completely filling Douglas' pouch, and forcing the cervix up under the pubes. The tumor itself could not be lifted out of the pelvis. It was remarkable for its size in comparison with that of the uterus which was entirely normal, as were the tubes and ovaries, aside from a small cyst at the end of the right Fallopian tube. The uterus was of normal consistency to the feel, while the tumor was very hard and very highly congested, as is shown by Figs. 7 and 8. The operation was not of unusual difficulty, and passed off satisfactorily, but the patient did not do well from the start, there being well-nigh constant and uncontrollable vomiting; and she died on the fourth day.

No. 1882. Age, 50.

No children. Ten years ago it was known that she had a growth in the abdomen. Menstruation stopped five years ago, previous to which she had flowed too profusely and too frequently. Since menstruation stopped she has occasionally had a slight flow, until two weeks ago, after a ride over a corduroy road, she had a bad flowing attack. This stopped in a short time but she has had a repetition of this since. She had typhoid fever last summer, and does not think she has been so well through the abdomen

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since then. Urination is frequent, and she is obliged to be up two or three times every night. There was some swelling of the lower extremities which sometimes continued all night. Examination showed a narrow pelvis and lower abdomen full of a hard nodular mass which was only slightly movable. The operation was an abdominal hysterectomy with the removal of the appendix. The uterus was a mass of fibroids, as is well shown in the illustrations, Figs. 9 and 10, with the ovaries buried in the pelvis and lying beneath the uterus. The ovaries were very adherent. The right ovary was much enlarged, quite the size of a goose-egg, and was as hard and fibrous to the feel as was the uterus itself. This, together with the tube and ovary and tube of the other side were enucleated from a solid mass of adhesions, after which a classical hysterectomy was completed. This patient made a fine recovery.

No. 1550. Age, 46.

No children. This patient had been regular until recently. For the last three months she had flowed almost continuously. For three weeks she continued to flow very freely, with clots as large as one's hand. Occasionally, only, she had a day when she was free from flowing. She had lost twenty-three pounds in weight, was pallid, and had depreciated very much in strength. She was short of breath on slightest exertion and had palpitation of the heart. No urinary trouble. The uterus was enlarged somewhat, movable,

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yet fixed in the pelvis. This case is reported as showing the type of case which, was it free and uncomplicated, could easily be removed by way of the vagina, were an operation necessary; but when it is fixed by adhesions, no matter what their source, a vaginal attempt is apt to end in disaster. In such cases the size of the growth has nothing to do with determining the route to be selected. The uterus was not much enlarged, although there were several fibroids in the body of it; but the left ovary and tube were involved in an almost indistinguishable mass by reason of a pyosalpinx, which is well shown in the illustration, Figs. 11 and 12. This had caused sufficient inflammation to make everything in Douglas' pouch adherent, including the tube and ovary on the other side which were not originally affected. In this case, the fibroids by themselves were of little account, and had there not been at some time infection of the tube with the corresponding results, the fibroids would probably never have been discovered.

No. 1537. Age, 39.

Menses regular up to five years ago. She had always been subject to severe headaches. During the last five years the flowing had gradually increased until during the last two months it had been excessive. Two months previous to the first examination she flowed two weeks continually, and after a two weeks' interval the flow returned and continued for two weeks again and was very profuse.

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Urination very frequent, bowels irregular, some leucorrhea. Examination showed the pelvis to be full of a hard immovable mass which extended well into the abdomen. The operation undertaken was abdominal hysterectomy with removal of the appendix. The cervix was much thickened, and the largest single fibroid of the mass was bound down into the pelvis beneath the peritoneum. It was hardly a broad ligament growth, although it was so buried that everything was under tension. The operation was without special difficulty, but the illustrations, Figs. 13 and 14, are so typical that they seemed worth presenting.

No. 1234. Age, 46.

This patient was sent to the hospital because of a bunch in the right breast. She had been partially paralyzed on the right side for sixteen years. Examination showed a well-defined tumor in the right breast, and a hard mass in the lower part of an enlarged abdomen. Paralysis at first seemed prohibitive of doing anything, but after a thorough investigation the right breast was removed, proving to be a fibroma. From this operation the patient made prompt recovery and returned home. About two months afterward she came back to the hospital with an acute attack of appendicitis of such a character that we determined to operate. Examination then showed not only an affection of the appendix, but also a large fibroid of the uterus which lay very low in the pelvis, crowding the cervix

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almost out of reach, and an outgrowth from it which projected downward in the pelvis below the lower level of the cervix; also a hard irregular nodule which pressed forward into the bladder. The operation consisted of an abdominal hysterectomy with an appendicectomy, and the accompanying Fig. 15 demonstrates the interesting arrangement of the fibroid. This patient made a fine recovery.

No. 1529. Age, 44.

Six years ago she began to have pressure in the pelvis on walking, and this had grown worse, especially during the last two years, during which time she had flowed very severely, continuing about two and one-half weeks out of every month. When not flowing there was a profuse leucorrhea. She had severe neuritis of the right arm two years ago, and this arm was larger than the left. Urination was normal, and the bowels were inclined to constipation. Examination showed a large, irregular, hard, movable tumor almost filling the pelvis. The operation was an abdominal hysterectomy with the removal of the appendix. The uterus was made up of a number of separate fibroids of varying sizes, which were thoroughly distributed throughout the mass of the tumor. This patient made a fine recovery. Figs. 16 and 17.

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No. 2931.

This case, Fig. 18, is the most remarkable one of its kind I have ever seen. The patient was only thirty-eight years old, unmarried. She had been conscious of trouble only for about a year. There was an easily demonstrated fluctuating tumor in the left half of the abdomen, which extended to the left of the umbilicus. This had apparently pushed the uterus to the right, where it could be made out distinctly from the more prominent tumor above, and there was apparently a well-marked line of demarcation between the two, as evidenced by a demonstrable sulcus after the abdomen was opened and a fluctuating tumor presented itself. The fluid from it was drawn off through a trochar and thirty-four ounces were collected. It was then delivered in its collapsed condition through the incision, when it was found to have its origin in the uterus, near the fundus and behind the right Fallopian tube. Both tubes and ovaries were affected by it. As the illustration will show, there were several fibroids in the uterus, therefore a hysterectomy was made. The illustration shows the relationship of the uterus and the tumor, the latter having been filled with saline in order to photograph it. The right tube and ovary were masked by the tumor. The fluid that was drawn from the tumor was clear and limpid as from an ovarian cyst. Conclusion as to the origin and nature of the cyst was that it must have been originally a fibroid which

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for reasons unknown to us broke down completely until in its entirety it was merged in this cyst.

No. 2649. Age, 42.

No children. She had had a miscarriage once at the third month from bicycle riding, but had been perfectly well otherwise until within the year. Six months ago she was laid up six weeks with an attack of peritonitis, and never has been well since. She dates her present acute condition from a fall due to dizziness which occurred five days ago. She fell forward on the abdomen and the pain incident to the fall has lasted and grown worse until it is intolerable in the left side and has continued all night. She was much nauseated on the ride in the auto to the hospital, and the jar of motion is painful to her, the pain doubling her up. She flows every three weeks for a week. Examination showed a multiple fibroid of the uterus together with a large cyst on the left side, Figs. 19 and 20 C. Her condition was so serious that we operated as an emergency case immediately upon entrance to the Hospital. A large cyst of the broad ligament was found below and at the outer extremity of the Fallopian tube on the left side. This latter had precipitated a crisis by becoming twisted upon its pedicle, the latter including the outer portion of the tube, and it had become so embarrassed that it was markedly inflamed. A hysterectomy was made, not because of the cyst, which had forced immediate consider-

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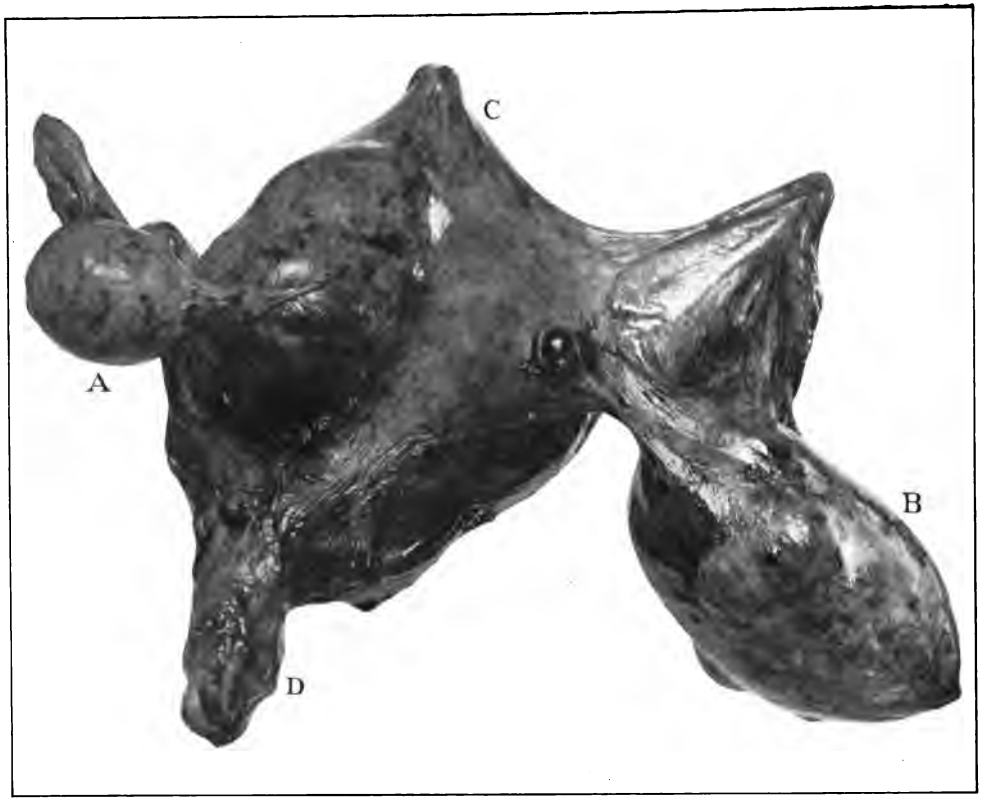

FIG. X.

A — Right ovary.
B — Left ovary.
C — Fundus uteri.
D — Cervix uteri.

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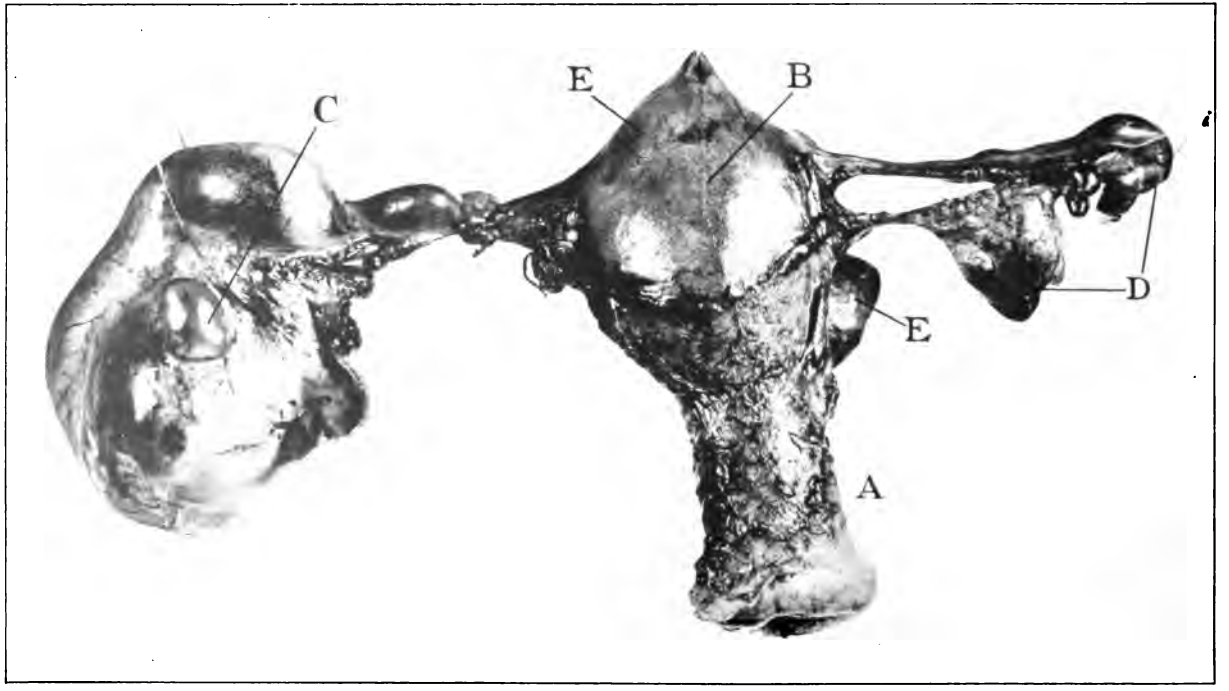

FIG. XI.

A — Cervix uteri.
B — Corpus uteri.
C — Pyo-salpinx of left side involving the ovary. The probable source of all the trouble in the pelvis.
D — Right tube and ovary.
E — Small fibroids, insignificant and without appreciable interest in this case.

The cervix is large in comparison with the body of the uterus. The latter is soft and friable. These features are due probably to the long-continued inflammation to which the uterus has been subjected by reason of the pyo-salpinx.

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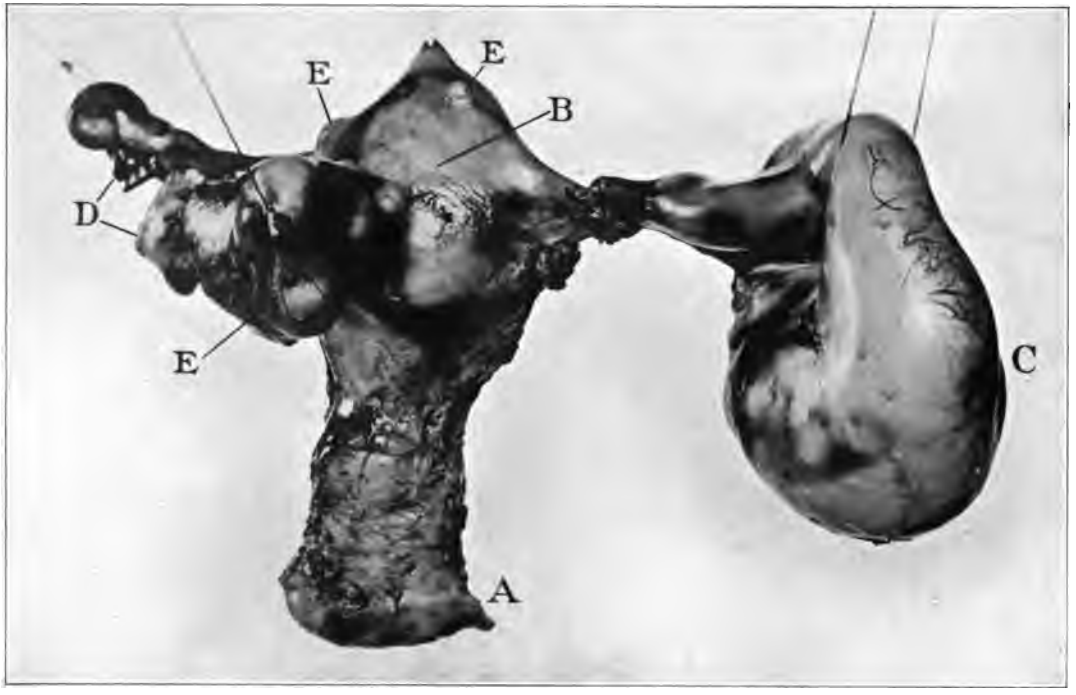

FIG. XII.

A — Cervix uteri.
B — Corpus uteri.
C — Pyo-salpinx of the left side involving the left ovary.
D — Right tube and ovary.
E — Small and insignificant fibroids.

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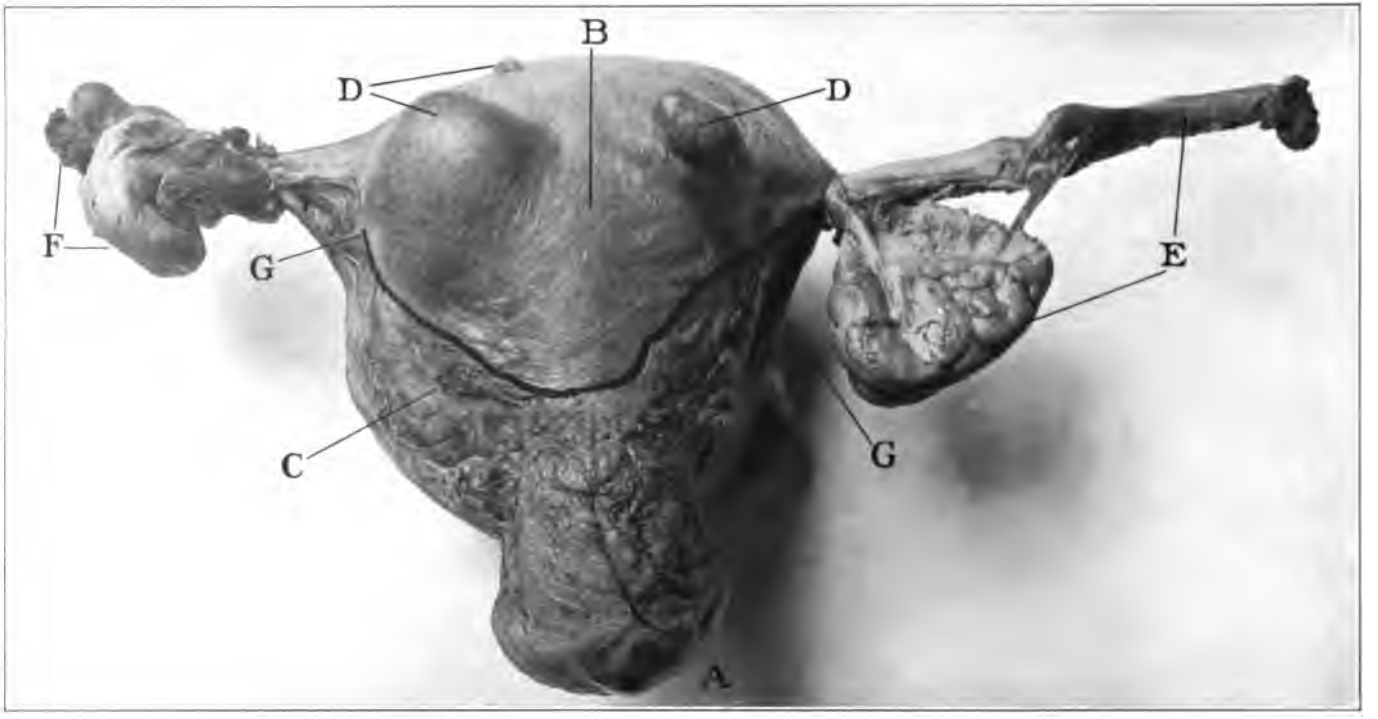

FIG. XIII. POSTERIOR VIEW.

A — Cervix uteri.
B — Corpus uteri.
C — Large fibroid buried under peritoneum. An interstitial growth.
D — Small fibroids projecting from the surface of the uterus. Good examples of sub-serous growths.
E — Right tube and ovary.
F — Left tube and ovary.
GG — Line of incision through peritoneum.

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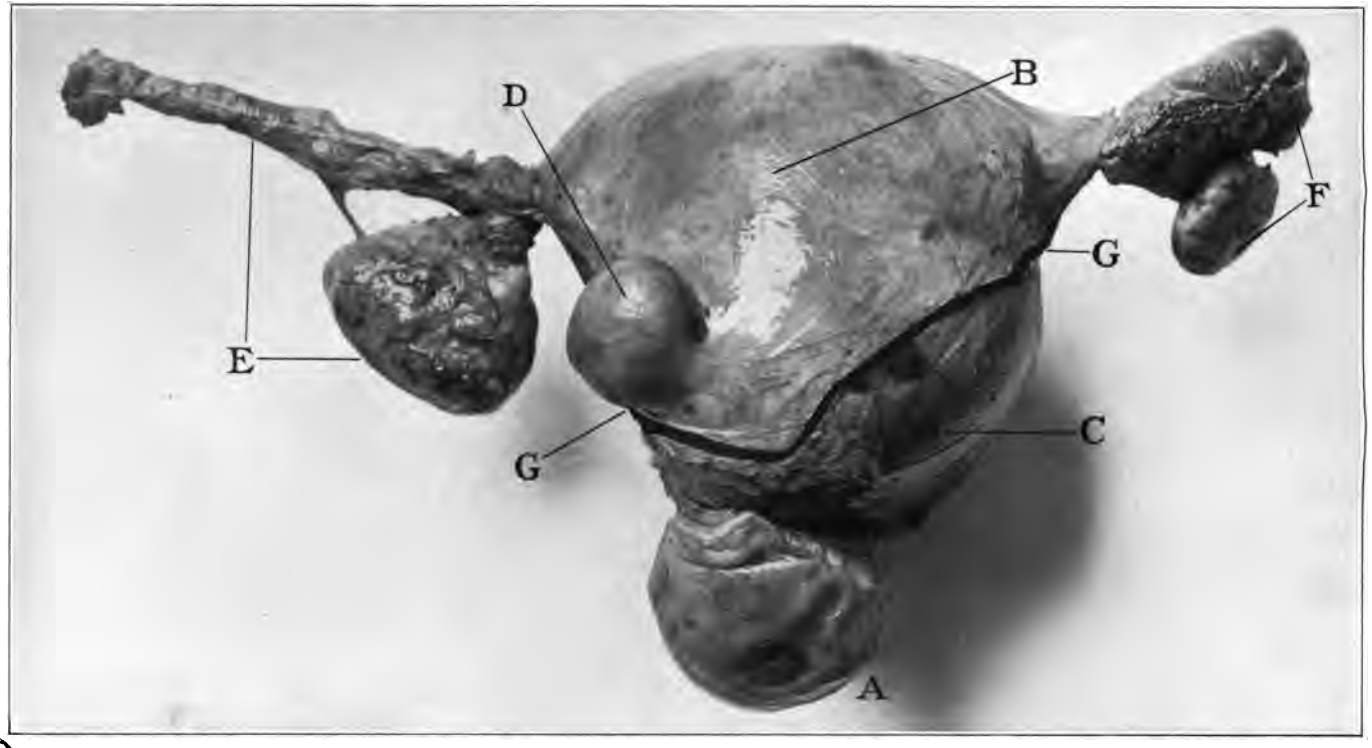

FIG. XIV. ANTERIOR VIEW.

A — Cervix uteri. B — Corpus uteri.
C — Large fibroid (interstitial), showing finely its relation to the cervix and tube and broad ligament of the left side. Also, the retraction of the peritoneum after it was incised.
D — Small fibroids (sub-serous). E — Right tube and ovary. F — Left tube and ovary. GG — Line of incision through peritoneum.

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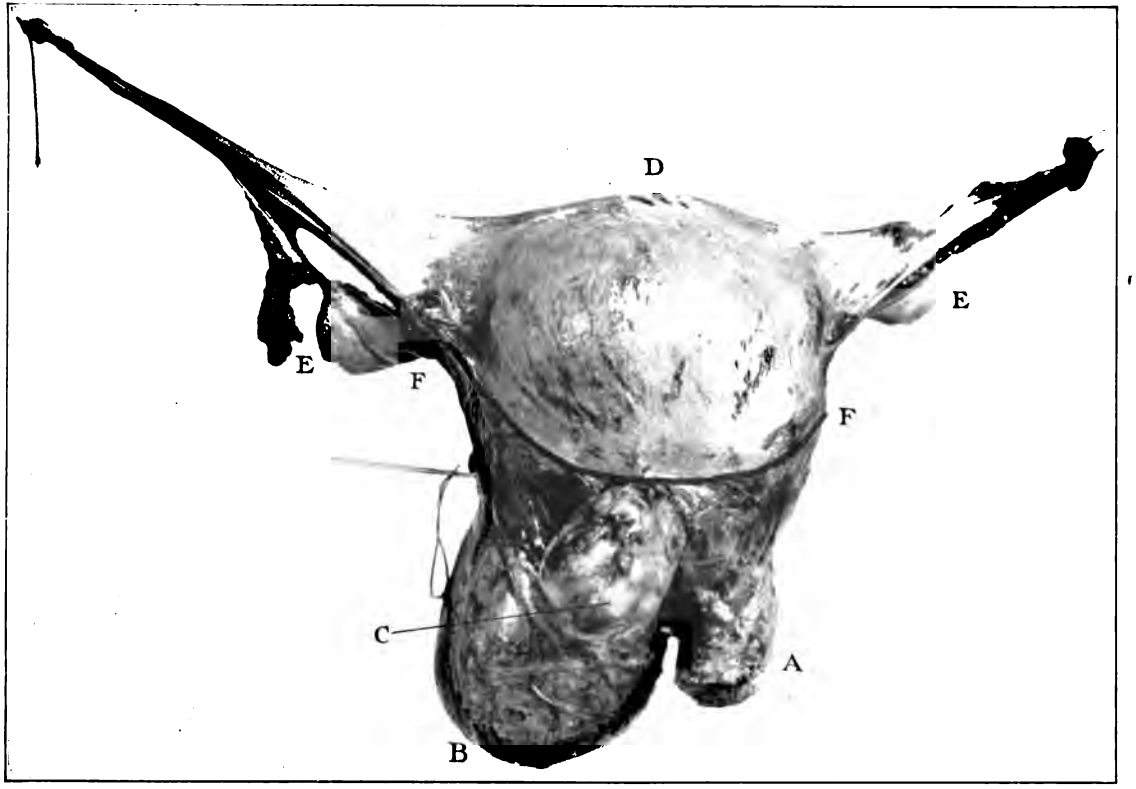

FIG. XV.

A — Cervix uteri.
B — Broad ligament outgrowth into the pelvis, filling the latter and forcing the cervix far to the left.
C — An outgrowth forward displacing the bladder.
D — Fundus uteri, with enlarged body showing distinctly several growths.
E — Ovaries.
FF — Peritoneal line.

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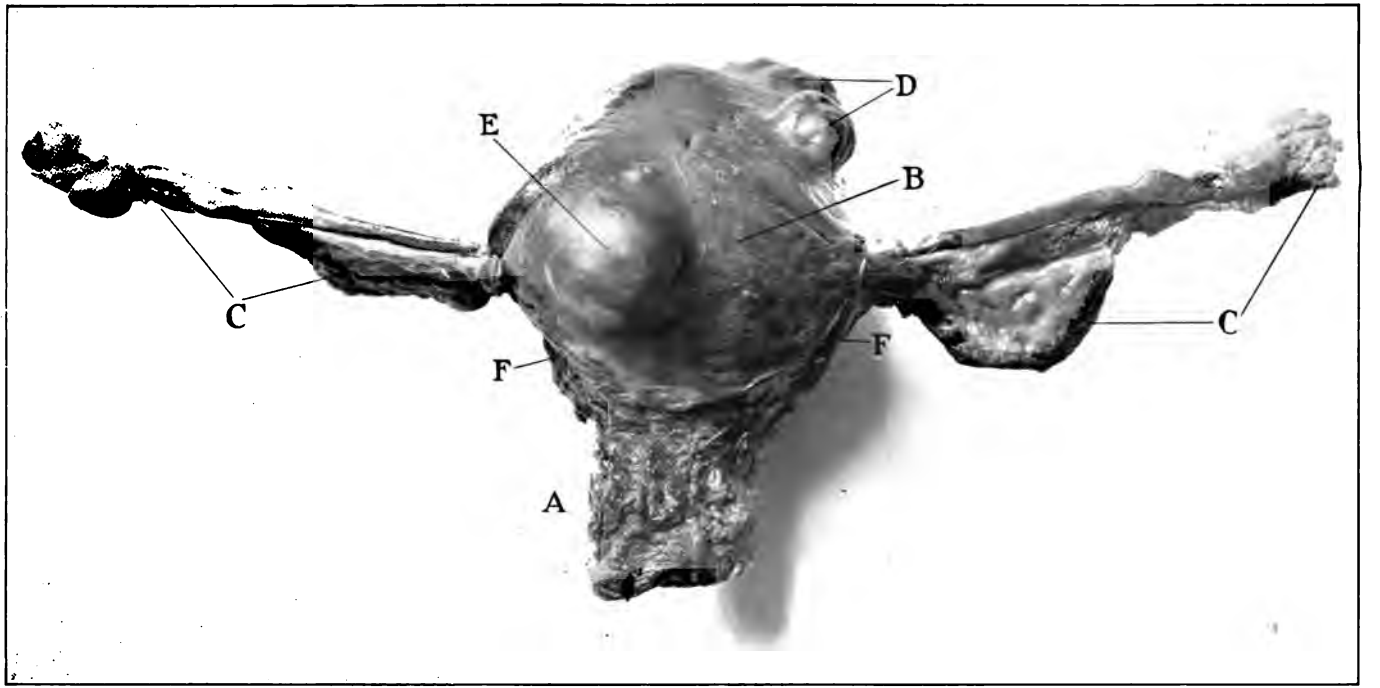

FIG. XVI. POSTERIOR VIEW.

A — Cervix uteri. B — Corpus uteri. C — Tubes and ovaries. D — Small fibroids (sub-serous).
E — A large fibroid (interstitial), tending to become sub-serous. FF — Line of incision of the peritoneum.

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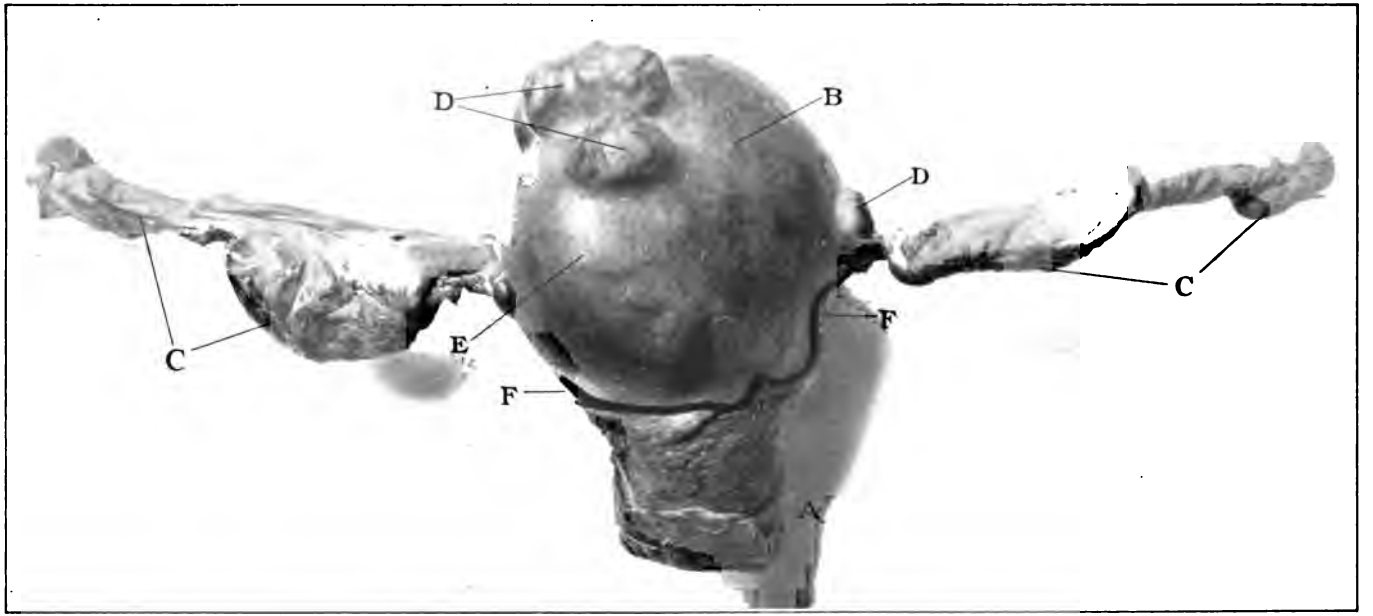

FIG. XVII. ANTERIOR VIEW.

A — Cervix uteri. B — Corpus uteri. C — Tubes and ovaries. D — Small fibroids (sub-serous). E — A large fibroid (interstitial). FF — Line of incision of the peritoneum.

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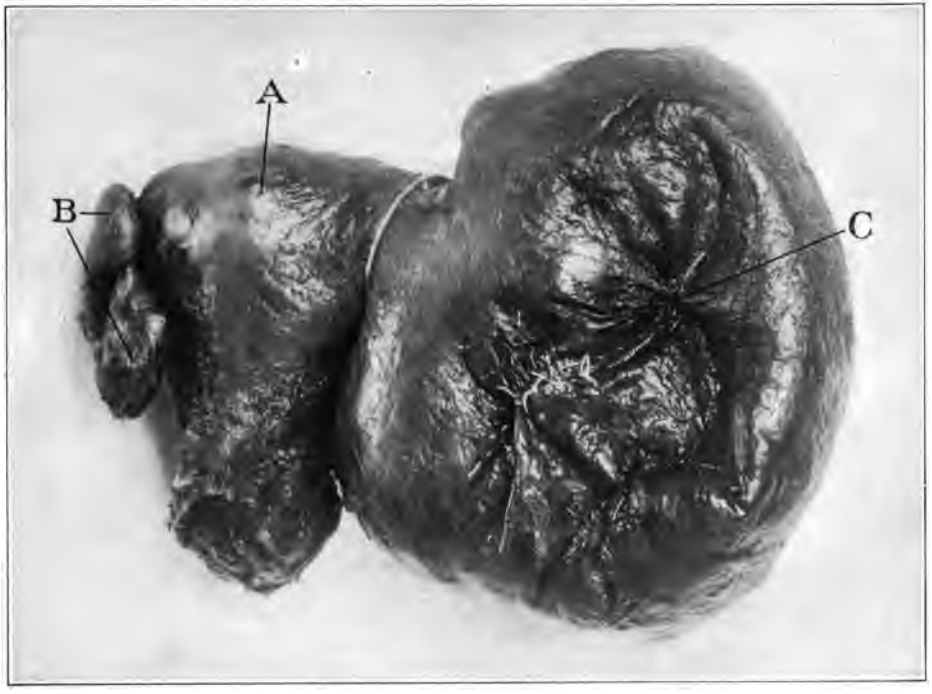

FIG. XVIII.

A — Uterus somewhat enlarged and showing small interstitial fibroids.
B — Right tube and ovary.
C — Large cystic outgrowth from the uterus.

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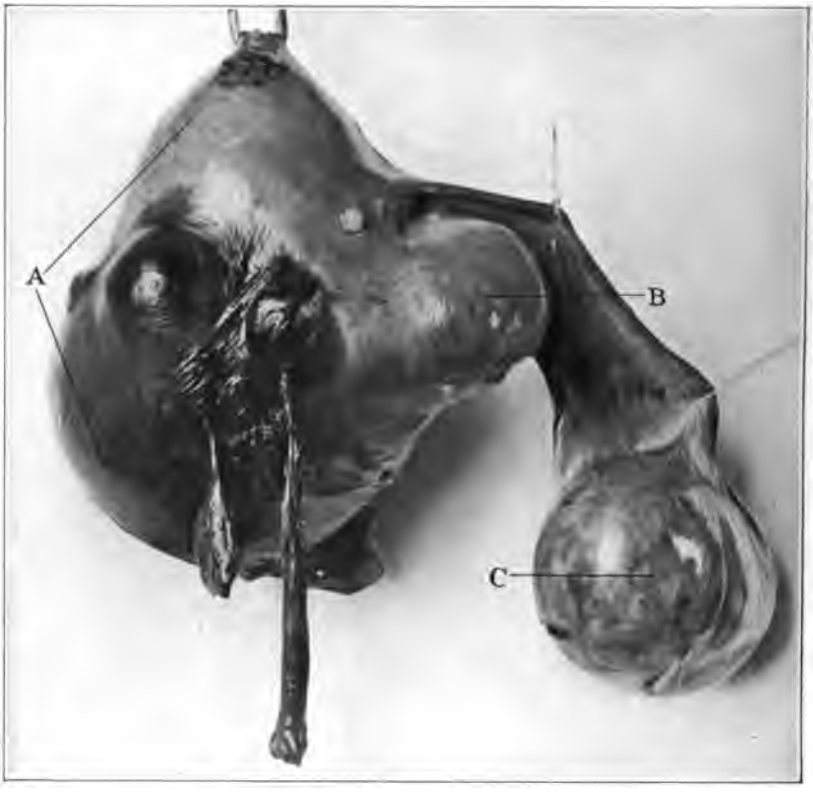

FIG. XIX.

A — Uterine mass showing a number of distinct fibroids.
B — Special attention is called to this growth just beneath the uterine end of the Fallopian tube. It probably favored a rotation of C upon the tube.
C — Cyst of the broad ligament at the end of the tube which had revolved upon itself through one and one-half revolutions.

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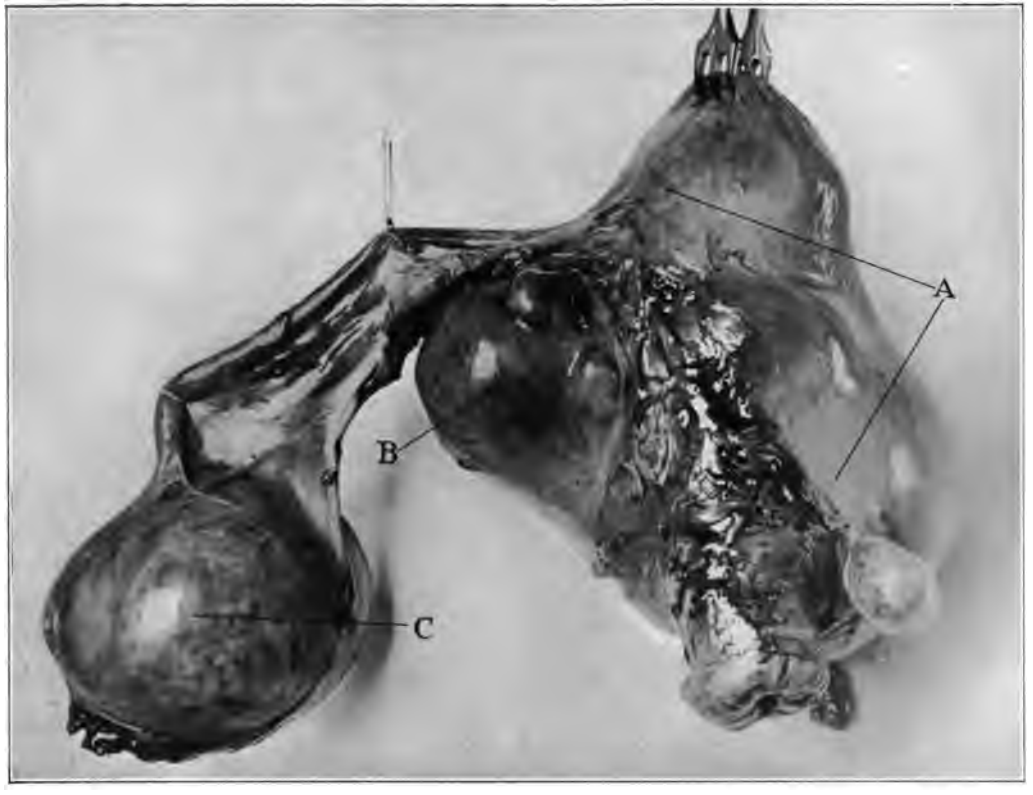

FIG. XX

A — Uterine mass showing a number of distinct fibroids.
B — Special attention is called to this growth just beneath the uterine end of the Fallopian tube. It probably favored a rotation of C upon the tube.
C — Cyst of the broad ligament at the end of the tube which had revolved upon itself through one and one-half revolutions.

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FIG. XXI.

A — Cervix uteri.
B — Corpus uteri.
C — Large sub-serous growth which forced the fundus forward and to the right, causing distortion, as clearly shown in this and the following figure.
D — Interstitial fibroid growing into abdominal cavity.
EE — Fallopian tubes and ovaries.

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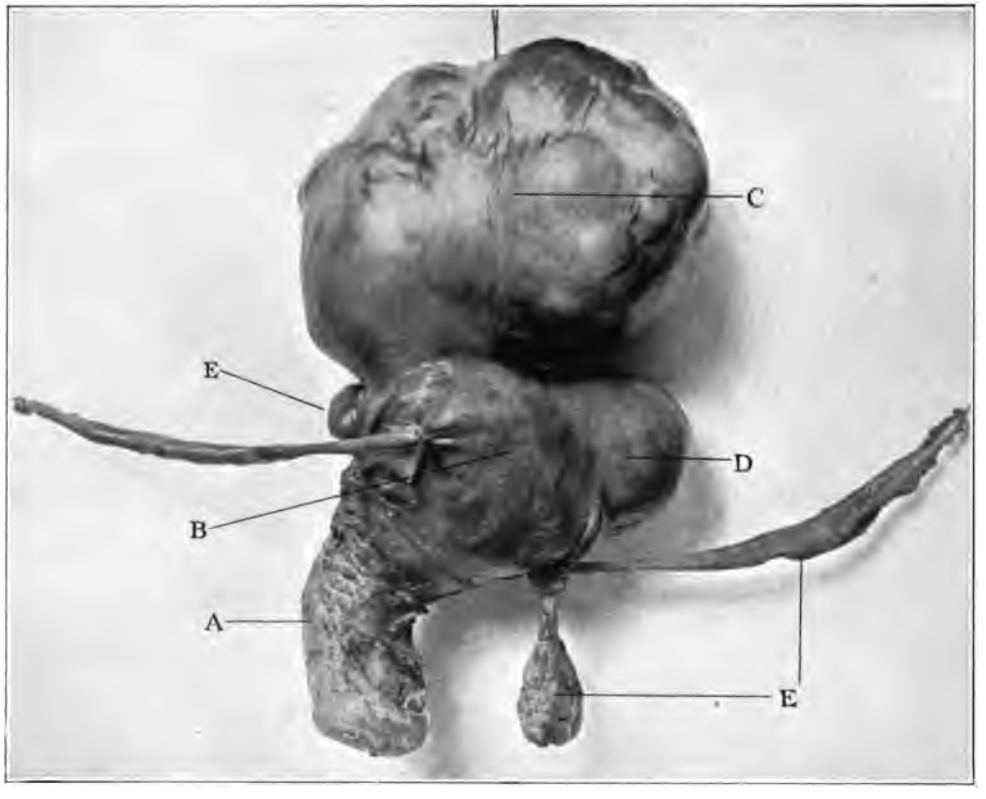

FIG. XXII.

A — Cervix uteri.
B — Corpus uteri.
C — Large sub-serous growth
D — Interstitial fibroid.
EE — Fallopian tubes and ovaries.

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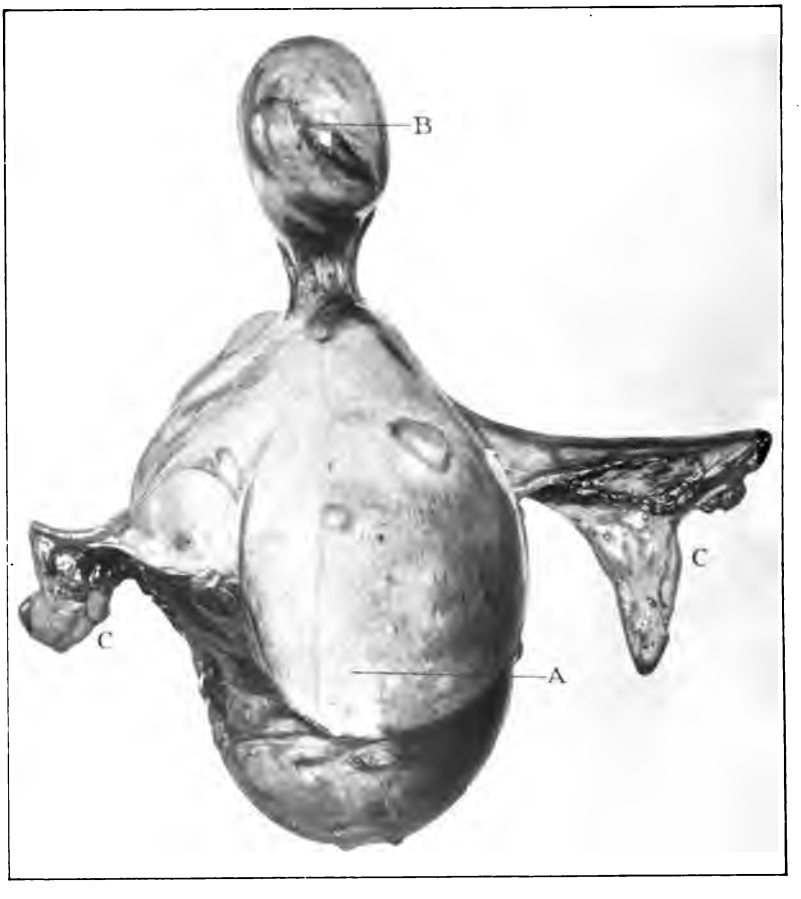

FIG. XXIII. ANTERIOR VIEW.

A — Tumor grown downward in front to a level lower than the external os. The bladder was displaced without discomfort to the patient.
B — Small pediculated growth at the fundus.
C — Tubes and ovaries.

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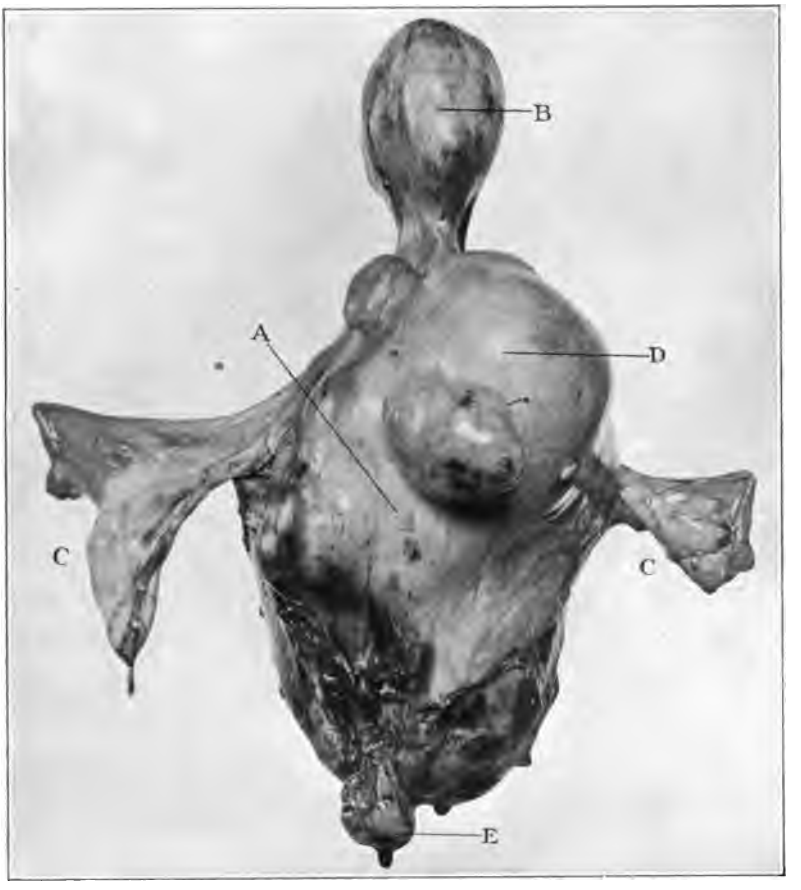

FIG. XXIV. POSTERIOR VIEW.

A — Body of uterus.
B — Small growth of fundus.
C — Tubes and ovaries.
D — Larger growth at fundus.
E — Cervix uteri. The region immediately above the cervix indicates the thickened utero-sacral ligaments and attachment to the vagina.

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ation of the case, but because of the multiple fibroids so plainly shown in the photograph.

No. 2486.

This patient was a woman of great activity who was accustomed to horseback riding. She had first noted a movable bunch in the abdomen which was found at different times in different parts of the lower abdomen. It was not painful but was enlarging all the time. Her greatest discomfort was a feeling of heaviness before menstruation began, together with indigestion, which was persistent. This case is offered here because it is a typical fibroid which has caused considerable distortion and yet the discomfort had been almost nothing. The larger growth had grown from the left-hand side of the fundus of the uterus, and had pushed the body of the uterus backward and to one side until Douglas' pouch was filled. The illustrations show the extremity of the distortion. Figs. 21 and 22.

No. 2792.

This case, Figs. 23 and 24, shows a remarkable downward growth so that the cervix was almost obliterated, especially in front, and yet the symptoms were not very serious at any time. The flow had been regular and rather excessive for four or five years. There was no leucorrhea. Urination was very frequent as one would expect from the

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dislocation of the bladder. She had grown very large through the abdomen, and had become very pallid, as will happen sometimes in these cases even when there is no great loss of blood. Her general health evidently was becoming affected which was the deciding reason for removal by an abdominal hysterectomy.

No. 1804.

This patient was operated on September 22, 1908, an abdominal hysterectomy for the removal of a fibroid having been performed. She made a satisfactory recovery, but came back on July 23, 1909, with an inflamed localized spot at the upper angle of the wound. This was opened and curetted, there being almost no discharge, and healed in a short time. On November 22, 1909, she returned with practically the same conditions as before, and again was the affected area curetted and closed. She came back on February 6, 1910, and an episode of her history, which had not been related to any of those at present concerned in this case, was brought to our attention through the interest and influence of a former physician.

About nine years ago the patient attempted suicide by shooting three times at the abdomen with a 32-calibre revolver. None of the bullets penetrated to the abdominal cavity, and two of them were found and removed at the time; the third, however, could not be located. The doctor who referred her to me immediately saw the possibili-

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ties of what might be shown by radiographs and secured three, two from in front and one from behind. Two of these showed perfectly the location of the bullet, and the other one seemed to indicate faintly the course of it. Examination showed a scar — as of a bullet wound — about one inch below and to the right of the umbilicus; and a line drawn from this in the course of the estimated flight of the bullet was crossed, practically at right angles, by the upper portion of the incision of the original operation, which was the seat of the present apparently shallow sinus. There was absolutely no irritation other than the local one. This was opened again down to the bottom of the perpendicular sinus, and great care was taken to incise through the whole of it, so that upon separation the two portions of the sinus were demonstrable like the two halves of a bullet mould. The left-hand side of the sinus was then gently and carefully manipulated, cleansed with gauze without curettement, and from the lower aspect of it a very tiny opening was demonstrated. Into this a fine flexible silver probe was inserted, without force, and with no great difficulty was made to pass its whole length in what was still estimated to be the supposed course of the bullet. The probe went laterally, a little upward, in the fat of the abdomen. It was not even in juxtaposition with the aponeurosis. When the probe had passed its full length, a small opening was made down to its distal end, which was brought out through the opening, and to which was tied one end of a piece of silk, the other end of which was threaded into

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the eye on the other end of the probe. This was done so that in subsequent manipulation this probe could not be displaced. After this was secured, a smaller probe was then used to find the continuation of the sinus, and a moment's manipulation discovered it, although it was very minute. A second probe, similar to the first, was then gently teased onward, there being sufficient resistance to make one wonder if it were not being forcibly insinuated into the fat. However, as it continued the direction of the first probe and the supposed direction of the flight of the ball, it was inserted its whole length and treated exactly as the first one, a small opening being made through which its end was passed and secured, as already explained. From this point the third probe was inserted into the continuation of the sinus, which was not demonstrable to the eye and which was not patently open. This probe passed its full length and terminated at the point where the X-ray showed the bullet should be; and another incision was then made over the end of the probe — through the fat — to the muscles below, and a finger immediately felt the bullet lying upon the muscle and encysted. The bullet lay just below the border of the eleventh rib and was indented upon one side of its forward end, as if it had struck the rib with sufficient force to cause the indentation. Indeed, in no other way can its distortion be accounted for, as apparently in its flight it had come in contact with nothing else sufficiently solid to indent it. It did not lie in absolute contact with the rib but had fallen away from it a short

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distance, as one of the radiographs showed. Through the various openings the sinus was curetted with a small curette, and drained through each incision.

This case seems to possess unusual interest from the fact that a 32-calibre bullet, fired at close range, should make such a peculiar flight, continuing its course in the plane in which it was made, but being diverted through an arc in that plane by such non-resisting tissue as the fat. It is of course possible that the ball in its initial flight struck the external sheath of the rectus muscle when in a state of extreme tension, and the angle of incidence was so extremely acute that the bullet was slightly diverted into the fat, and then followed around the body in the fat, until arrested by the rib about one and one-half inches to the left of the spinous processes. This wound healed at once without suppuration, yet over seven years afterward (when the healed sinus caused by the bullet was accidentally opened) sufficient infective material had been practically encysted — and was released — to cause a mild infection; and although it healed several times, there never was the same immunity as that attained the first time. Each occasion that the wound closed, there remained some deep-seated infection, which subsequently opened up the sinus again; but this was not sufficiently virulent to burrow for any considerable distance in the track of the bullet.

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No. 2440. Age, 47.

She had two children, the youngest nineteen years old. Fourteen years ago she miscarried at the fourth or fifth month and was very ill. She also had malaria at that time. Nine months ago she began to flow and has continued to do so most of the time since. She has severe exacerbations at which time she must go to bed and keep her lower extremities elevated. She has always flowed too freely but regularly. Normally she flowed seven days and had no variation until nine months ago. She began then as usual, but flow did not stop and continued for a long time and the odor became very offensive. She has now lost track of her menstrual periods and has lost weight and strength. Her appetite is as good as usual and the bowels are regular, with no urinary trouble. She sleeps as well as usual.

Examination showed the cervix uteri very much eroded, crater-like and bleeding. The uterus was big and not freely movable in the pelvis. Operation was advised, hysterectomy performed, and the accompanying illustrations, Figs. 25, 26, 27 and 28, represent what was taken away. There was a multiple fibroid of the body of the uterus. These growths were not very large, although they probably contributed to the abnormally free flow. The cervix was much enlarged, broadened and thickened, and breaking down, and the illustrations show the crater-like condition of the cervix. This case is included here

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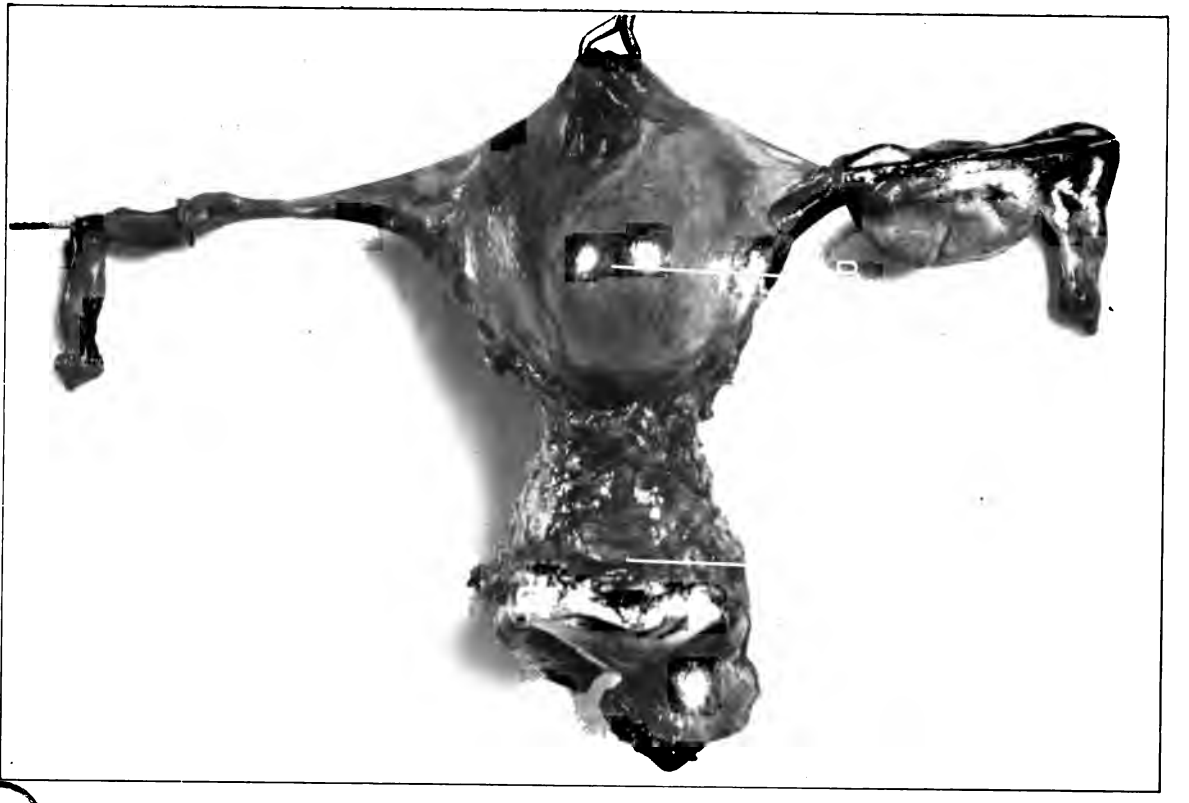

FIG. XXV. ANTERIOR VIEW.

A — Carcinomatous cervix uteri.
B — Corpus uteri, containing several small fibroids.

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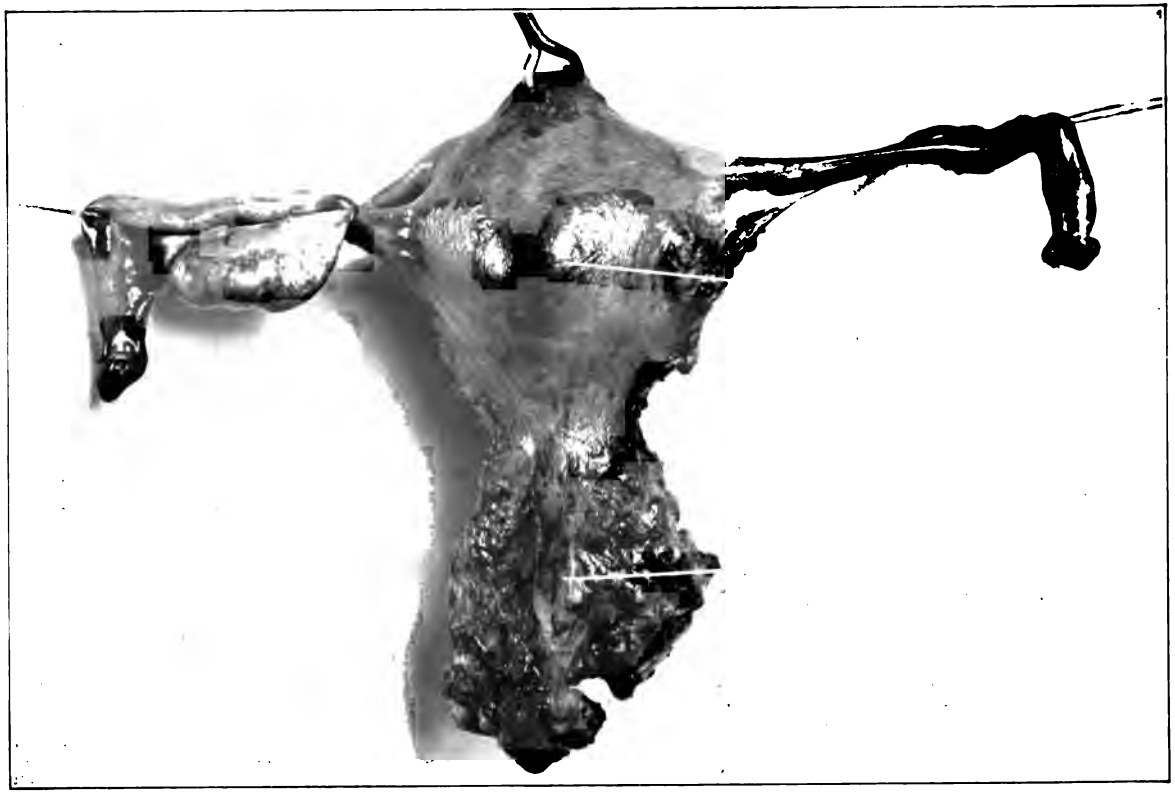

FIG. XXVI. POSTERIOR VIEW.

A — Carcinomatous cervix uteri.
B — Corpus uteri, containing several small fibroids.

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FIG. XXVII.

This shows a greatly enlarged and eroded cervix above which is the enlarged corpus uteri containing several small fibroids.

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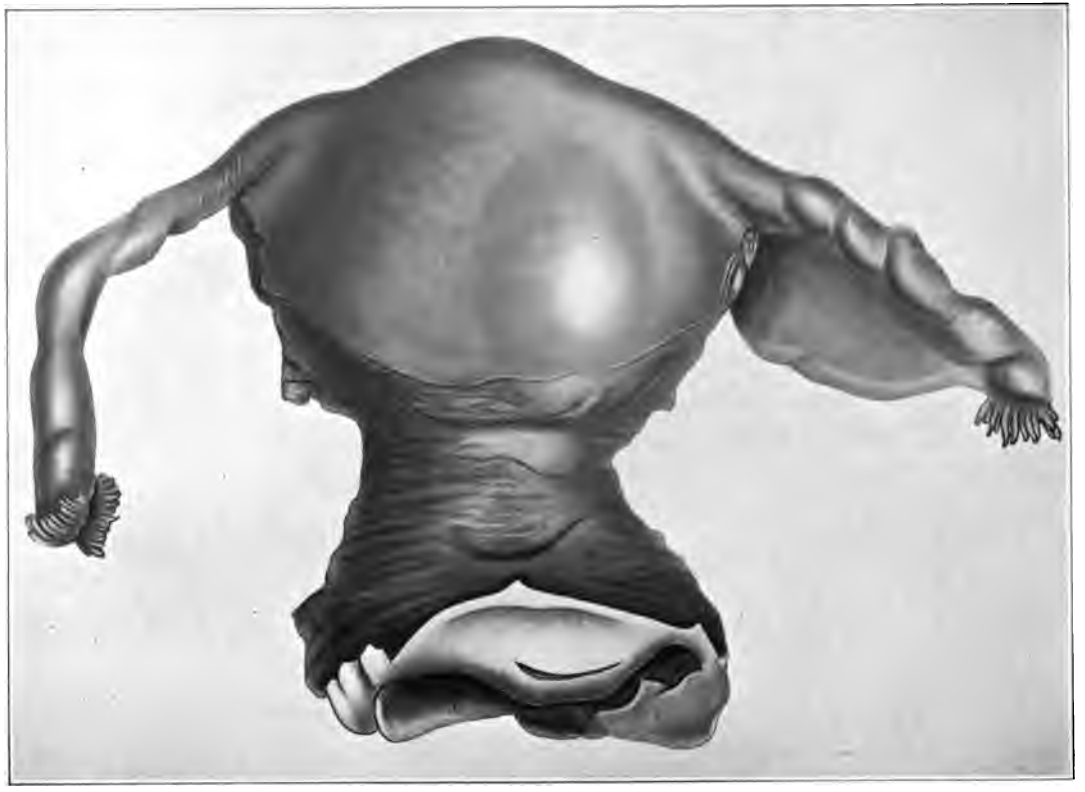

FIG. XXVIII.

This shows a greatly enlarged and eroded cervix above which is the enlarged corpus uteri containing several small fibroids.

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because it shows so clearly and distinctly that fibroids and malignant degeneration are sometimes associated.

No. 3153.

This patient was sixty-one years old, menstruation stopped nine years before, and she had been well until two months previous to our seeing her. During that time she had been flowing continuously but without pain. There was some slight odor to the discharge. The bowels were irregular, urine and urination normal, appetite and sleep good. The only thing she complained of otherwise was occasional indigestion. An examination showed the uterus somewhat enlarged with a normal cervix and not very movable. The cul-de-sac was filled with a fluctuating mass somewhat sensitive. Operation was advised and a vaginal hysterectomy was made as soon as the patient could be properly prepared. Upon opening Douglas' pouch everything was found adherent therein, and when these adhesions were broken up no further difficulty was experienced in completing the operation. The uterus was made up of several small fibroids which of themselves were of small account. The cavity of the uterus, however, was found to be filled with a broken-down and grumous mass which looked like a carcinoma. The uterine cavity was filled with this. The adhesions were caused by an hematoma of the right tube which was the adherent mass found in the cul-de-sac. The pathological diagnosis

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confirmed that made by us of a carcinoma. The case was interesting as showing not only the association of the carcinoma and fibroids, but also as indicating the necessity of investigating every slightest hemorrhage which occurs in elderly women, and indeed in all women who have passed the menopause.

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SOME INTERESTING ABDOMINAL CASES

No. 2605. Age, 37.

MOTHER of two children, youngest seventeen. She had previously been examined and was told there was some growth upon the uterus, and two weeks ago an effort had been made to remove it, but when the growth at the cervix was found to be malignant the operation was abandoned. Previous to that she had had hemorrhages, very profuse, coming on suddenly, gushing away and lasting almost three hours at one time. These followed each other quite frequently, and between the hemorrhages there was a profuse, foul leucorrhea. We determined to make an effort at extirpation, with what success the accompanying illustration shows, Fig. 29. There was a pyo-salpinx of either side with a very much enlarged and ragged carcinomatous cervix. The body of the uterus was only slightly enlarged and an abdominal hysterectomy was made, and the specimen is interesting as showing the comparative size and relationship of the affected parts.

No. 2468. Age, 53.

She has had two children. Menstruation stopped two years previously. Indigestion has become so bad that

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she can eat almost nothing and lives on malted milk, crackers and broth. She has the desire but cannot eat, and has lost weight materially. She has grown large through the abdomen, especially during the last two months, with some pain in the lower abdomen. Is sensitive to motion and the weight of her clothes and cannot stoop. Her ankles have begun to swell.

Examination showed a large movable tumor and operation the next day removed by hysterectomy a uterus somewhat enlarged, with enormous ovaries which had developed free in the abdominal cavity. The accompanying illustrations show their size relative to the uterus. Figs. 30, 31 and 32.

Pathological examination showed them both to be adenocarcinomatous. This patient made a good operative recovery but succumbed fifteen months later from secondary development of the carcinoma which was thought to be located in the stomach.

No. 1556. Age, 70.

This was a remarkably interesting case. The patient was operated upon six years before we saw her by Dr. J. H. Hayward for some form of intestinal stenosis, the exact nature of which was not known. Following this operation she was very much better, although troubled in the right side ever since. She could not eat certain foods. She had frequent attacks of pain which came on about

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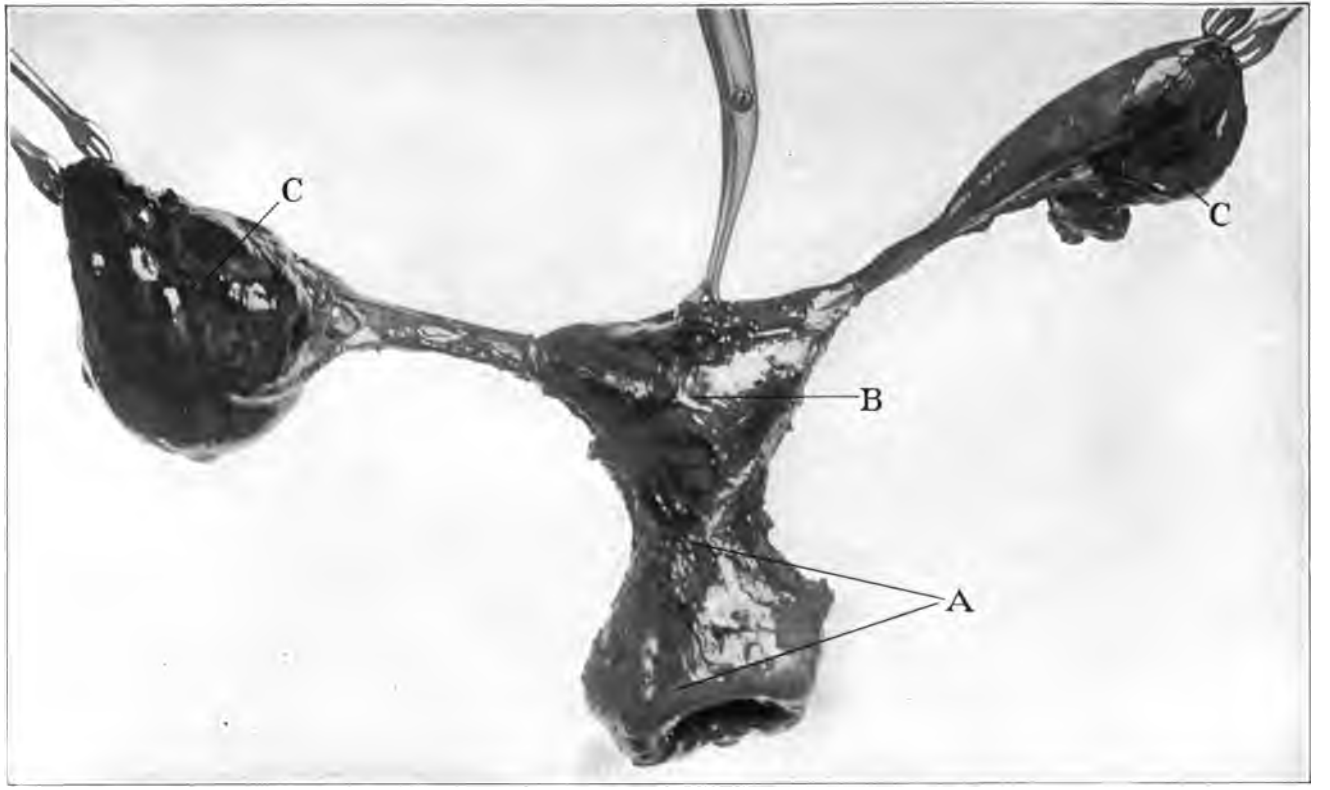

FIG. XXIX.

A — Cervix uteri undergoing carcinomatous degeneration.
B — Corpus uteri.
C — Pus tubes and ovaries not to be distinguished from each other because they have been dug out of a bed of adhesions.

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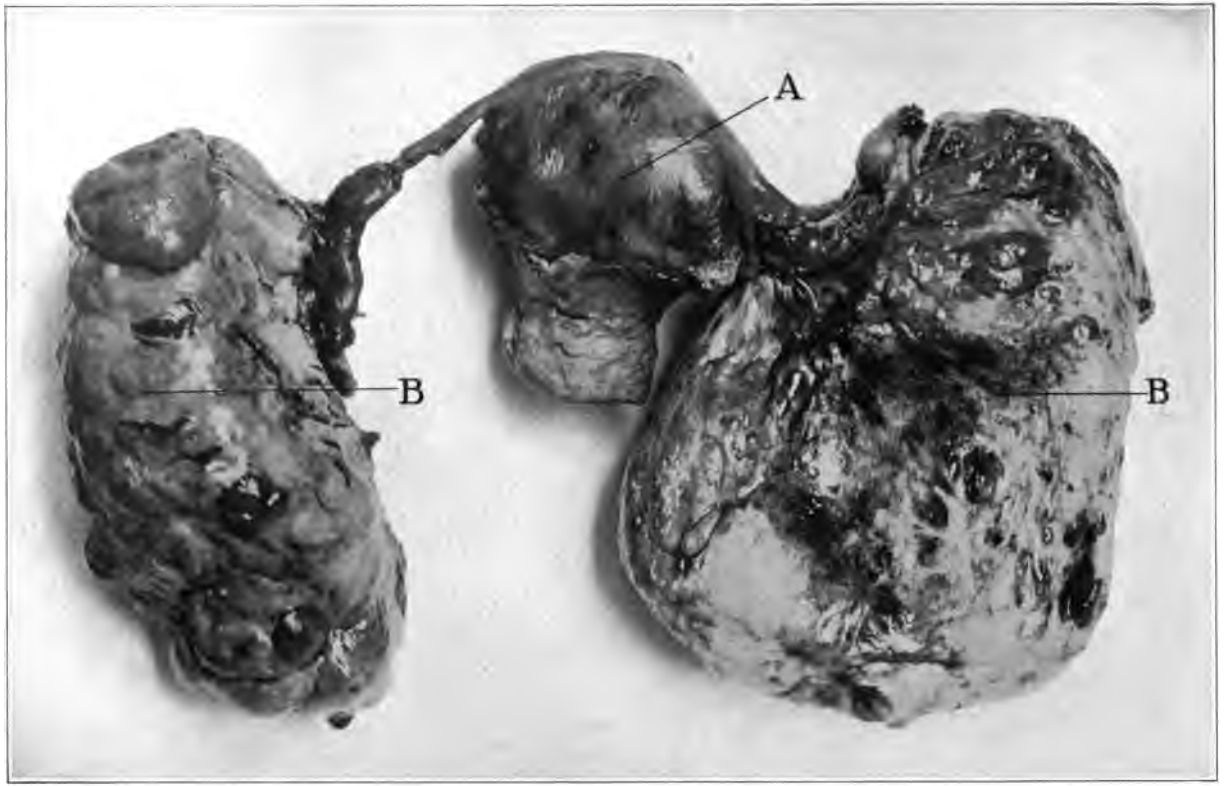

FIG. XXX. ANTERIOR VIEW.

A — Uterus. B — Adeno-carcinoma of the ovaries.

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FIG. XXXI. POSTERIOR VIEW.

A — Uterus. B — Adeno-carcinoma of the ovaries.

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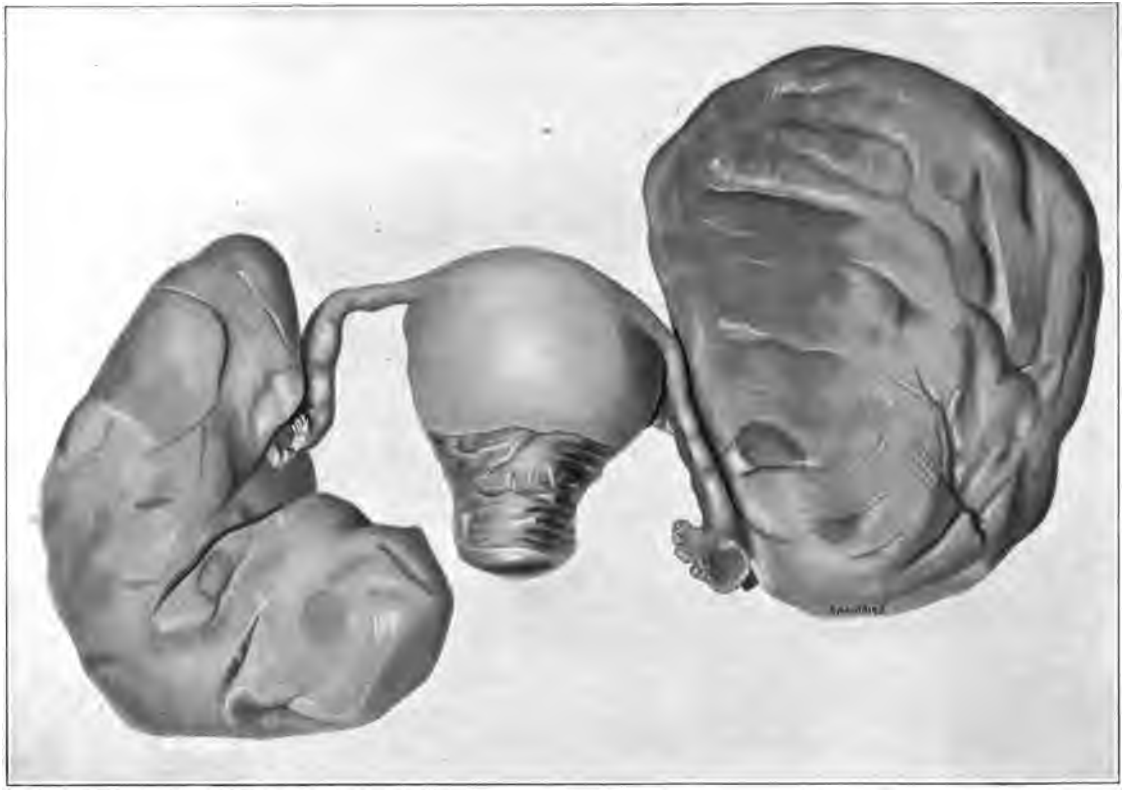

FIG. XXXII.

Freehand drawing of specimen shown in Figs. XXX and XXXI, showing remarkable disproportion between uterus and ovaries.

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3 P. M., which she described as a creeping pain, continuing until about 8 or 9 P. M., when she became completely exhausted and said she was "sick all over" because of severe pain in right side. This lasted until about 3 A. M., but did not leave her sore after it. She had almost no nausea, never had been jaundiced, nor had there been any light stools. She had a great deal of gas from the intestines and belched much during the attacks, and if she could pass flatus freely was relieved, and was not apt to have an attack come on when passing gas freely. Bowels were fairly regular. Sweets were particularly injurious to her. Before the attack came on she could feel the gurgle of gas in right side. Had recently lost some weight. She was obliged to use the greatest care in eating. These attacks came on with increasing frequency. All that an examination showed was the site of the old operation with great tenderness over the gall bladder. Operation was advised and accepted, and on March 24, 1908, operation was undertaken by opening through the old wound. Very extensive adhesions were found over the gall bladder, and between the gall bladder and intestines, and the intestines and abdominal wall. Upon freely breaking into these adhesions a loop of small intestines was found very much distorted and bound down, and the site of a well-marked flexure at a point of stenosis of the intestine. At the very densest portion of the adhesions and at the point of sharpest flexure was the seat of the previous resection of the bowel, the line of union showing with marked dis-

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tinctness. When this was freed from adhesions, the calibre of the bowel seemed to be competent, the latter was soft and patulous and allowed the invagination of the adjacent bowel; and it did not seem as if anything were to be gained by again resecting the bowel. The difficulty was apparently due to the peculiarities of the adhesions here. When the gall bladder was extracted from its mass of adhesions, it was found thickened and distended, and contained seven large stones. The gall bladder, with the stones, was amputated and the wound closed completely. She made an uneventful recovery, affording her complete relief. This operation was made in September, but in the following March she was back again with practically the same condition of affairs. Upon opening again, adhesions were everywhere encountered, and were very generally broken up, and the bowel was again found to be competent, and the difficulty was not apparently due to a stenosis of the bowel proper, but rather to the persistency of the adhesions. These were very generally broken up, and oil was introduced into the abdomen; but her condition was not as satisfactory on entrance as previously and she did not attain the same degree of relief, and died a month after the operation.

No. 2924. Age, 33.

This patient was curetted, the appendix removed and a ventral suspension made in June, 1909. In May, 1910,

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she was again curetted, the right ovary was removed and a ventral fixation was made. She was unrelieved and there was continual pain through the lower abdomen, especially on the right, worse at menses, pain coming a week or ten days before the flow, continuing all the time of flow and several days afterwards. Has had only a very few days each month free from pain. She was very sensitive to motion. The abdomen was very tender to palpation, and a small uterus was fixed forward and too high in the abdomen. When first seen our impression was that hysterectomy would be the best thing for her, but when we had the opportunity of examining her under ether, we determined to open the abdomen again and see exactly what the conditions were within. The uterus was absolutely normal in size and we felt it was unnecessary to remove it. We therefore opened above and found first of all a *fixation* of the uterus. It was literally a fixation and in our opinion a very faulty one, and in itself was quite enough to cause her continued discomfort. The uterus was fixed to the abdominal wall half way between the umbilicus and the tubes. In any experience of our own or in anything we have ever read we have never found such a position of the uterus necessary, and if perchance she had ever become pregnant it would have been an impossibility for her to have borne a child. In our opinion ventral *fixation* should never be performed in any case where it is possible for the woman to become pregnant, because it is an utter impossibility for her to give birth

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to a child. We also found the left ovary very much enlarged, very angry and inflamed, almost to the bursting point, and we saw no other way than to remove it, which we did. We also released the uterus from its position and then suspended it in such a way that it approximated a normal position in the pelvis. She made a fine convalescence and was entirely relieved of former discomforts.

No. 1410. Age, 43.

For at least nine years this patient had been ailing, having been laid up the first time with some form of acute abdominal trouble. She grew better, but had never been right since, and the last few weeks had been practically helpless. She was very tender throughout the abdomen. She had been jaundiced, and had an acrid leucorrhea which caused an acute pruritus. Examination showed the abdomen to be hard, sensitive, and the pelvis full, although it could not be properly examined because she was so sensitive. The operation showed an old pyo-salpinx which had tied up everything in the lower abdomen, and the tubes and ovaries were removed with the greatest difficulty. She did not bear the operation well, and died on the day of the operation.

It was not to be wondered at that this patient did not live. She was so exquisitely tender that a proper examination could not be made without ether, and under the latter the pelvis and lower abdomen were found to be a

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solid mass. Upon making an incision it was made sufficiently high to palpate the liver, on the under side of which was found a growth, the exact nature of which could not be determined. It extended from the gall bladder over the whole of the under surface of the right lobe of the liver, elevated therefrom about an inch, and irregular in outline, though of about the same consistency as the liver itself. We could not determine the nature of this, and as the condition in the pelvis and lower abdomen were definite, we did not hesitate to make the latter the point of attack. Everything here was buried in adhesions, and it was with the very greatest difficulty that the bladder was separated and the uterus found. At times no line of cleavage was discovered, and it was with extreme care only that the adherent bowels were finally separated from the pelvic mass, and the latter demonstrated to be an unusually severe case of pyo-salpingitis. Both tubes and ovaries were removed, together with the appendix. The abdomen was filled with hot saline. She was very much shocked, had not borne the operation very well, and in the earlier stages of it had lost considerable blood. As a result she did not rally from the ether and died about three hours after leaving the operating table.

No. 2790.

Three days before entering the hospital this man fell down stairs while carrying a rocking chair, and the end

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of one of the rockers struck him in the right side outside of the linear semilunaris and about on a level with the umbilicus. Immediately after, a swelling appeared at this point as big as his fist, which disappeared on lying down, but recurred when on his feet. Examination showed an extensive bruise and ecchymosis at the seat of the injury, and there was readily demonstrated a hernia. At the time of the operation an incision through the skin came down at once upon a loop of the intestines, and investigation showed that there had been an actual fracture of the soft tissues including the peritoneum itself. The fat was divided, the muscles were as clearly split as if done with intent, and the opening in the peritoneum — about two and one-half inches in length — was also clearly defined. The appendix was readily examined through this opening and found to be pathological, and was of course removed. The opening in the abdominal wall was then closed layer by layer exactly as if it had been made with intent for the purpose of removing the appendix.

The patient made an uninterrupted recovery. The interesting part of this case is that the blow was a strong and severe one and it had caused literally a fracture of all soft tissues except the skin. Had the skin given way, the rocker would have pierced the abdominal cavity.

This was a remarkably interesting case. In falling he struck upon the end of the rocker, and the blow was so severe that there was an actual fracture of the muscles of the abdominal wall. There was a bruised spot about

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the size of two silver dollars laid side by side in the line of the linear semilunaris of the right side and about one and one-half inches below the level of the umbilicus. Beneath this could be felt the muscular defect.

The skin incision which traversed the middle of this, perpendicularly opened immediately upon a mass of omentum. Inspection showed that the blow had literally fractured the tissues lying beneath the skin. The fat was disintegrated and pushed far away because the intestines had prolapsed through the opening in the muscle. The aponeurosis of the internal and external oblique muscles was divided just outside the line of the linear semilunaris for a distance of three inches, while the line of separation in the transversalis was at right angles to the former and extended through its aponeurosis for at least one and one-half inches laterally in the muscular tissue. Then the opening in the peritoneum was an irregular one corresponding to that in the external oblique. These tissues were divided as cleanly as if by dissection; and apart from removal of the appendix (which contained an enterolith and was somewhat inflamed) nothing was done beyond making the skin incision to accurately unite the divided tissues.

No. 2953.

An examination showed a soft rounded mass in the right half of the pelvis, so characteristic in feel that the ques-

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tion was raised immediately as to the possibility of extra-uterine pregnancy.

Operation. The uterus was curetted and a very much relaxed perineum was repaired. Upon opening the abdomen it was found to be filled with blood, some entirely fresh but some which had been effused some time previously, and Douglas' pouch was full of clots. Further investigation showed the hemorrhage to come from the right tube and we saw a most interesting form of extra-uterine pregnancy. No doubt this particular form is most frequently the subject of spontaneous cure without danger to the life of the mother. In this particular case the conditions were just sufficiently adverse to have made her position a serious one at the time of operation. There was a tubal pregnancy of the right tube. An implantation of the impregnated ovum had taken place just within the fimbriated extremity. The end of the tube was enormously distended and congested but was not ruptured. What had undoubtedly taken place was that the tube would become greatly distended, but instead of a rupture from the tube there was a hemorrhage from the open end. This had been going on for some time until a great deal of blood had been effused and the bleeding was still going on. The second night before the operation she had had a sharp attack of pain with faintness, etc., which was probably due to exacerbation of the flow. The tube was so congested and distended that at other times there was a general oozing, simulating a parenchymatous hemorrhage,

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and as this seemed to be constant there was, as a result, a considerable loss of blood. The ovary was much enlarged, bound down by adhesions, and cystic; therefore both tube and ovary were removed. The left ovary was also enlarged and cystic and this was resected. As was expected, the appendix was also entirely pathological and this was removed.

No. 2642.

This case was unusual. The patient, a man thirty-eight years old, was a sea captain and up to the time he presented himself he had not missed a voyage of his ship. Two years previously he first noted a pain in the right side high up under the ribs which was occasional only and lasted at times forty-eight hours. At first the pain came once in about two weeks, but latterly has been every three or four days and has worked down into the lower part of the abdomen. He is incapable of sustained exertion. If he walks two blocks he is obliged to sit down and is nauseated even to the point of vomiting, but is not relieved even if he does vomit. He is constipated. He thinks the urine is normal in color and quantity. He has lost twenty-two pounds in the last two months. He feels as strong as ever but is without endurance. His appetite is good except when in pain. An examination showed a tumor extending to the true pelvis below, disappearing under the short ribs above. It reached almost to the mid line and was semi-fluctuating.

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The distortion caused by it could be seen as he lay on his back and the tumor was easily demonstrable. He came to us directly from his ship after a voyage from New Orleans, and the tumor had been variously diagnosed by various physicians in different parts of the country wherever he happened to touch with his ship. Operation was advised and accepted, and a lumbar incision was made and the tumor was exposed and delivered, proving it to be a growth of the right kidney. It seemed to have developed from the lower half of the kidney, the upper half being apparently normal. Its appearance, however, was so sinister that the whole growth was removed and subsequent examination showed it to be a sarcoma. Figs. 33 and 34.

No. 2502.

Two years ago the patient was operated upon because of a movable kidney and a lumbar fixation was made. The wound was over four months in healing and has always been since that time very tender and painful. Examination showed a large scar lower in its situation than is usual. It was very hard and irregular and plainly showed extensive suppuration at some former time. A kidney was firmly attached to this scar and was no longer movable, but it was far from its normal position, the upper part of the kidney being about on a level with the position of the lower pole when the kidney was normally *in situ*.

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FIG. XXXIII.

Sarcoma of the kidney. The upper portion is apparently normal, the lower portion cystic and tensely distended.

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FIG. XXXIV.
Sarcoma of the kidney.

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The character of the pain at the present time was entirely different from that which preceded the operation. The scar was exceedingly sensitive and tender and she suffered from indigestion, which was especially intolerable because, as she expressed it, it was as if her " stomach was on fire." She was very constipated.

There could be no question but what her condition was an intolerable one, and from the severity of the pain and its persistence, and the extensiveness and density of the scar, we were of the opinion that there was probably an inclusion of the ilio-hypogastric nerve in the cicatrix and an operation was unhesitatingly advised. The scar was found to be very dense and extensive, and upon dissecting away the kidney from its close attachment to it, the large nerve trunk was distinctly found and traced in both directions until it was entirely free. The kidney was also freed from all adhesions and returned to its normal position and there fixed and the wound was closed. The relief was remarkable. From the moment of recovery from the ether, the patient expressed herself constantly and enthusiastically over the absence of former pain. We have never seen a case of this character make so fine a convalescence with so little discomfort, and even during her comparatively short stay in the Hospital her whole appearance changed for the better, showing that the relief was a radical one.

There is little doubt that the discomfort in this case was caused more by reason of the fixing of the nerve in

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the cicatrix than any other factor, but the extremely fixed condition of the kidney in a faulty position must have added to the discomfort. We have found that whatever method of fixation may be carried out, if one seeks for and finds the large nerve trunk, which can always be definitely located and exposed, and carefully excludes this from the area of fixation by slight lateral displacement, that there is almost no discomfort immediately following the operation and none of a permanent nature. I know of no single factor in this operation which pertains so much to the comfort of the patient immediately following the operation as attention to this detail of the relations of the nerve.

No. 2535.

About five years ago this patient began to have cramp-like pains lasting from three weeks to three months, accompanied by diarrhoea. The individual attacks of pain lasted from seven to nine hours unless checked, and were accompanied with from ten to thirty stools per day. Stools were watery with much mucus. Pain was followed by vomiting. He was jaundiced, with bile in the urine after an attack. Competent observers diagnosed gall stones and operation was advised and accepted. A large gall bladder was found containing a black gumous secretion, with sediment but no gall stones. The only thing obstructive was an enlarged gland at the junction of the cystic and hepatic ducts, which was so inaccessible it was

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not removed. The operation did not relieve, and pain has been as bad as before; in fact increasingly more severe. He has become extremely emaciated, sallow, jaundiced after the attacks of pain, and the latter have become intolerable, requiring chloroform at the height of the attack. Following the attacks of pain, the stools are putty-like, frequent and diarrhoeic. He had failed so markedly and suffered so intolerably that he welcomed any chance for relief, although the seriousness of his case was recognized by all interested in him, and fully explained to him.

On February 21, 1910, we therefore determined to see again if any determining cause could be found. There were a few adhesions about the gall bladder and ducts, but most careful palpation failed to discover any gall stones in the gall bladder. The only deformity which could be found was an enlarged gland situated exactly as had been discovered at the former operation; it pressed upon the common duct and was very firmly attached to it. We decided to remove this and found it a very difficult thing to do mechanically because of its inaccessibility and strong adhesions, but at last it was removed satisfactorily. Nothing else was done except to close the wound. The recovery was satisfactory in the extreme. The highest temperature following the operation was in the evening of the day of the operation, when it was 100.2/5 degrees. Immediately on his return from the operating room there was a discharge from the bowels, yellowish in color and

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very loose; two hours later there was a loose bloody stool, with some gas; five hours later he passed considerable gas. In the first 24 hours following the operation there were 7 loose and bloody discharges of yellowish color. In the next 24 hours 13 loose dejecta; next, 11; then 8; then 10; then 7; then 14; then 11; then 11; then 6; then 4; then 10; then 6; then 4; and thereafter they came less and less frequently, becoming gradually more solid in substance and normal. There was an excessive amount of bile in all of these loose dejecta. The tissue removed must have been so closely adhered to the duct, that in forcibly removing it an opening was made in the duct, because for the first week or more there was a considerable discharge of bile from the wound. It was intended and an effort was made to remove the tissue without injuring the common duct, but evidently this was not accomplished. The patient made a slow but satisfactory recovery and when he left he agreed to keep us informed of his condition. Later information was remarkably fine and he made a complete and entire recovery. He recovered weight and strength, and in every way the result was a perfect and wholly satisfactory success.

The latest report from him nearly two years after the operation was that he had completely recovered and had just accepted a responsible mill position. This case is put on record because of the outcome of the seeming impossibility that so apparently trifling a cause could have such serious results. The pathological report upon

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the tissue removed was that it was only "inflammatory tissue."

No. 2835.

This case proved to be a very unusual one in that there was an entire absence of the left tube and ovary and round ligament. A median incision was made, which showed the right ovary to be as large as a golf ball. The tube was normal and the uterus was drawn considerably to the right side. In palpating, the examining finger passed without obstruction laterally from the anterior surface of the broad ligament of the right side to the posterior surface of the same ligament. The abdominal opening was then enlarged sufficiently for inspection, since none of the audience would assent to the claim that there was no left broad ligament. The uterus was held with tenaculum forceps, and the intestines pushed aside and held with gauze sponges so that a thorough inspection could be made of the pelvis. After the right tube and ovary were delivered, it was then seen that the corresponding organs of the left side were absolutely lacking on the left above the vault of the vagina. The uterus was a rounded organ of normal size, drawn to the right by a normally placed right broad ligament, the latter being normal. The enlarged ovary was the only deviation here. Everything was lacking on the other side, and as this was the first case of the kind I had ever seen, it seemed worthy of special record.

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CONSERVATORY OPERATIONS UPON THE TUBES AND OVARIES

A BRIEF study of the summary of the abdominal cases accompanying this report must impress one who is interested in the subject with the extreme lengths to which we go in conservation of the tubes and ovaries. Cumulative experience convinces us that a consideration of these varying cases of diseased ovaries will show that the sum of all the good that will come to a large series of cases by methods of conservation is and will be overwhelmingly in excess of the sum of all the good that will come by other methods. The quality of relief which is brought to the individual patient immediately following the operation is superior to that which results when the tubes and ovaries both are all taken away. In the latter case in all the women who have not reached the menopause there is a precipitated nerve storm, brought about so abruptly that nature herself has neither time nor opportunity to adapt herself to such a sudden change. As a result of this such patients have an uncomfortable time, nervously, until they can become adapted to the changed conditions, and this often extends over a period of several years. All this is avoided when a portion of an ovary is left behind, and I believe it is of so much benefit to such patients that in

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cases where it is necessary to remove both tubes and ovaries, we always seek for a bit of normal ovarian tissue if it can be found and leave it behind. A small portion so left mitigates very much the after discomforts of these operations. Were there no other reason, I would consider this sufficient to be a determining factor in the cases of women under forty years of age. A sentimental phase of this subject is that the very assurance to the woman that the ovaries were not entirely removed proves very grateful to her mental condition.

Another phase of this, which seems to me is not sufficiently emphasized, is that the possibility of child-bearing is conserved even when most extreme mutilation takes place. There are a number of well authenticated cases where pregnancy has occurred in women upon whom a complete ovariectomy has been made, supposedly, and yet a wisp of ovarian tissue has been left behind and an ovum has found its way into the uterus and there become impregnated. I have personal knowledge of one case where a hysterectomy was made under these conditions, both tubes and ovaries having been previously removed, and a seven months' living fetus was found instead of the expected fibroid. If tubes which have not been damaged beyond recovery are left behind with only portions of the ovaries, impregnation is much more likely to occur than where the diseased and sensitive ovaries were retained. Again, if one tube is conserved, or one tube and a part of the ovary on the same side, pregnancy is a reasonable

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possibility, even if the other tube and ovary have been entirely removed. Still further, if one or both ovaries are resected, and one or both tubes are also resected, there is still a possibility of pregnancy; and even in our own brief experience we have positive and personal knowledge of between twenty and thirty cases where pregnancy has occurred subsequent to these operations and been brought to a successful termination, and we know of two cases where pregnancy has occurred twice with no discomfort in carrying the child and no unusual difficulty in bearing it. This is interesting in connection with the fact that most of these cases were those where the tubes and ovaries have been mutilated and a ventral suspension has followed the manipulation of the ovaries. In all cases where a double tubo-ovariectomy is done, if the uterus can be brought up to the abdominal wall it is suspended there. We wish to draw a very pronounced and definite line between the operations of suspension and fixation since the object of each is entirely different from the other and the mechanism of the two operations very materially differs. A ventral fixation under no circumstances whatever should be made in a woman who can by any possibility become pregnant, because pregnancy under such conditions is impossible of a successful outcome.

It is true that nobody can be infallible in the selection of the wholly appropriate, conservative procedure in a large series of cases, but the same criticism will apply to anything thus done under such circumstances. There

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is no doubt that the mistake is made in some of these cases in being over conservative, and I believe that in a series of any considerable size possibly five per cent of these cases will require a second operation because of a cystic development of the portion of the ovaries left behind. This does not include cases of infection subsequent to the operation, but is meant to indicate cases which were not treated with sufficient radicalism at the time of the operation. In spite of this admission we confess to a complete devotion to the conservation of the child-bearing functions of every woman. Too often have we seen young women beg to have both tubes and ovaries taken away because of the constant and severe suffering induced by them, yet come back later, when relief had been obtained by removing tubes and ovaries, and mourn inexpressibly because they could never bear a child. The wishes and desires of a sick woman suffering through disease of these organs should have little weight in deciding what is the best thing to do in any individual case. We should define for ourselves the procedures under such circumstances and modify it only for the individual good of the individual person, not, however, because of the importunities of a woman sick beyond the point of being an adviser in her own case.

The two following cases are illustrations of a class which fortunately are rare, but which come to the specialist with sufficient frequency to demand his best attention. On one hand it seems an inexcusable thing to de-

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prive a woman capable of conceiving of the ability to do so; yet on the other hand, where pregnancy causes to arise symptoms of such a character that the woman's life is in danger, it has always seemed to me the wisest thing to place the life of the woman out of jeopardy. In the first case here mentioned, after the cervix was amputated in the way it was done, it was a physical impossibility for this woman to carry a child to full term or even to the viable point; and even if she had done so, she could easily have lost her life in giving it birth by reason of the uncontrollable hemorrhage. Since she became pregnant so easily, there was no doubt in my mind that the wisest thing was to put her beyond the possibility of pregnancy, since nothing could be done to enable her to bear her child.

In the second case, also, it seemed better judgment to advise no further pregnancies; but inasmuch as this had been done in each instance that she had been brought to us, only to have the advice ignored, we had no hesitancy in advising that the tubes and ovaries be removed, thus practically eliminating the likelihood of pregnancy.

No. 288. Age, 26.

She was operated upon two and one-half years ago for the removal of the appendix. Six years ago she had an induced abortion in Chicago because of uncontrollable nausea in pregnancy. One year later she bore a child at

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full term. Two years ago the cervix was amputated for an alleged carcinoma which was without doubt only a lacerated cervix. After this she again became pregnant, and because of the mechanical conditions pertaining to the cervix an induced labor at four months was brought about. Shortly after this there was a four months' spontaneous miscarriage after a long railroad journey. After both of the latter miscarriages she flowed excessively, and at the time of the last one the placenta did not all come away and a curetting was necessary, which was accompanied with a very severe hemorrhage. She presented herself again pregnant at the fourth month, suffering with constant and severe nausea, confined to bed, and with labor-like pains similar to those which accompanied the previous miscarriage. These attacks of pain occurred several times a day. Examination showed that the cervix was short, cicatricial, irregular in outline, and with a very thin, close os. After competent consultations, it was advised that the patient should remain in the hospital awaiting developments, and that she should be kept quiet and practically in a reclining position. The reasons which led to this conclusion were that the worst that could happen would be a miscarriage, and the only thing that could be done at the present time to alleviate her condition would be to procure an abortion. It was thought that if she could be carried over the coming few weeks, she might go safely to full term, and that it would be very much to her advantage to go to full term, not only because the life of the

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child would be saved, but also because the possible habit of abortion would be broken up. It was also hoped that the changes incident to advanced pregnancy might so soften and alter the cervix that future pregnancy could be carried to a safe fulfilment. We also thought that the present should be made a test case for her, because it could be determined once and for all whether it were possible for her to bear a child. If it were possible, the possibility should be realized; if it were not possible, something more should be done than procure an abortion. She should afterwards be put in such a condition that future pregnancies would be impossible. After remaining a week in the Hospital the patient returned home. At the end of three weeks she came back to the Hospital, her condition having grown so steadily worse that the uterus was emptied. The cervix was dilated with the greatest difficulty because of the abundance of scar tissue. Ten days later a double tubo-ovariectomy was performed solely for the purpose of preventing any future conception; and the patient made a good recovery.

No. 878. Age, 32.

This patient had borne three children, and with the last one had convulsions. The urine was then very markedly loaded with albumen. She now presented herself again pregnant, between three and four months, with the urine again showing increasing quantities of albumen and with

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all the threat of a condition leading up to convulsions. After consultation, the uterus was emptied and she made a satisfactory recovery. She returned to the Hospital about ten weeks later for a repair of lacerations due to one of the previous confinements, and she was curetted and the cervix and perineum were repaired. Nine months later this patient came back, again pregnant, this time at two months, with a return of previous symptoms, albumen in the urine being especially marked; and again consultants decided that the only thing to do was to empty the uterus. Six months later this patient was back again, three months pregnant, with much albumen in the urine, feet and legs swollen, and the quantity of urine diminished to about twenty ounces per day; and again did it seem necessary to empty the uterus. At this time the matter was gone all over very carefully with the patient herself and her husband, and the ground was taken by us that such a state of affairs could not go on indefinitely and that if frequent pregnancy was to take place, as in the past, it were much wiser and safer to operate and remove the tubes and ovaries, thus preventing the possibility of conception. This latter advice was not accepted, however, and the interested parties decided to live apart in the future.

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THE EXPLORATORY INCISION

THE next three cases are quoted for the purpose of drawing attention to and illustrating what is one aspect of the "exploratory incision."

No. 1041. Age, 61.

This patient had had four children, the youngest thirty-three at the time of the examination. Menstruation stopped at fifty-five and she was regular until that time. Two years ago she began to have a show, which grew worse until it became continuous, with a weekly exacerbation which was quite severe. There was a slight odor to the discharge. Also, some pain developed across the lower abdomen through the right side which was apt to precede a hemorrhage. She slept fairly well and her appetite was good. She had recently lost some strength but no weight. Five years previous to this she had been in a hospital for operation when fibroids were discovered, but as no previous consent had been given to the removal of the uterus the operation was abandoned. There was a large hernia through the old incision, and when the abdomen was opened there were found to be extensive adhesions. The cervix was enlarged and breaking down, and the discharge was due to a continuous leakage from a

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carcinomatous uterus, with frequent exacerbations by reason of fibroids in the body of the uterus. Had it not been for the degenerated cervix these fibroids would have been negligible. By the abdominal route, the operation removed the uterus together with the appendix. It was made difficult by the many and exceedingly dense adhesions, which were broken up wherever found, and saline was left in the abdomen. The kidneys were not competent as she had a chronic nephritis. She bore the operation very well and everything was going on finely with temperature 100 on the second day, declining to normal on the evening of the fifth day, remaining with slight fluctuations, never above 100, until the twelfth day. Immediately after the operation the urine was very scanty, and so continued until the fourth day, when she passed twenty-three ounces. On the next day she passed forty-five ounces, and from that time on until the thirteenth day everything was progressing finely. Then the urine became scanty again until there was less than fifteen ounces secreted in twenty-four hours; and she died on the seventeenth day. This patient was quite stout, with a very large abdomen, and the hernia was an exaggerated one. It has been my experience that these cases of ventral hernia in stout women, which are extensive, are very serious cases. All the organs have adapted themselves to the changed conditions whereby a considerable amount of the abdominal contents are outside of the abdominal cavity. When these are crowded back, and the abdominal wall drawn together,

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the increase in the intra-abdominal pressure is so exaggerated by the crowding of the abdomen that other functions are liable to be deranged. We have seen the heart seriously affected, and have had several patients die from heart or lung complications which could be attributed only to this sudden change in intra-abdominal pressure. In this case the operation affected the kidneys, which were already in a state of nephritis. However, the case was a desperate one by reason of the combination of the carcinoma with fibroid, and the attempt seemed to be justified.

No. 1782. Age, 52.

This patient came to the Hospital with an abdominal growth, the exact nature of which could not be fully determined, although it was thought to be a carcinoma of the liver. This was another case where the condition was hopeless unless something were done to interrupt whatever process was then going on, and an exploration was advised. This consisted of a small incision only into the abdominal wall, through which a finger was introduced which quickly gave the information that this case was really inoperable, and nothing more was done. He made a satisfactory surgical recovery, and died a month after his admission to the Hospital from a continuous development of the disease. His death was in nowise affected by the operation, and this again should not be considered a surgical death although so included.

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No. 1807. Age, 50.

This patient presented himself September 14, 1908, with a history of having had an operation on his tongue, part of which was removed the previous May. On his entrance to the Hospital he had an enormous growth on the front of the neck and beneath the chin, which was very red and angry and burned at one place because of treatment from the X-ray. His case was entirely hopeless unless this growth could be removed and interrupted, and he came in for the purpose of having the growth removed so far as was possible, and then undertaking a course of serum treatment, knowing that if this were unsuccessful he would die. He died November 24, but his death was in nowise due to the operation, and strictly speaking this should not be considered a surgical death although it is here included.

One might reasonably inquire why an exploration is made in such cases of suspected malignancy, and considered from the standpoint of an individual case, it would sometimes seem as if an operation were unnecessary and that we should be able to make a sufficiently correct diagnosis to avoid it. In most cases this is true. But there is a group of cases where death seems inevitable unless whatever process may be developing is interrupted; and the only way to interrupt or even to interpret said process is by an operation. Even after the very closest of reasoning by the most experienced and skilful men, the

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results thus arrived at are not conclusive and an operation is advised. The explorer finds that either the diagnosis is entirely wrong and an operable condition exists, or that the diagnosis may be correct but that the condition is an inoperable one; or that while the case is a hopeless one much may be done to prolong life and to make it more comfortable. In this connection, two cases which do not fall within the time covered by this report (and hence are not included here in the Summary) come vividly to mind. These are quoted solely for purposes of illustration.

A young man was brought to the Hospital with such a complete obstruction of the bowel that the abdomen was not only enormously distended but he was beginning to vomit fecal matter. He was emaciated, had been unable to attend to business and slowly failing for several months; and the operation was undertaken in his case as an emergency one because of the acute obstruction of the bowel. A section of the small intestine was found full of a nodular deposit which was taken to be carcinomatous, and the mesentery was so infiltrated and thickened that it did not seem proper to attempt a resection; in fact, the case appeared to be a hopeless one. An anastomosis was made, however, short-circuiting the obstructed portion of the bowel, and this was suggested from the fact that the two loops of intestines (one above and the other below the affected part) were found lying in contact with each other. He had a stormy time following the operation, as

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was to be expected, but the bowel eventually cleared itself, and he made not only a good surgical recovery, but so far as one could determine a complete recovery, the hard nodular mass entirely disappearing and his health returning in such a way that he became entirely well. This occurred a number of years ago and he is alive and well to-day.

A more recent case was that of a man who developed an intolerant stomach with exquisite tenderness half way between the umbilicus and the ensiform cartilage, the exact nature of which we could not determine. At this point was a hard, resistant and quite well-defined mass which was very tender. He could eat little at a time because he filled up so quickly, had much nausea with occasional vomiting, and his discomfort had grown so acute that he was unable to attend to his business. He had been the rounds professionally without benefit. We kept him under observation several days, and finally decided to operate, because it seemed as if the suggestion of a cancer of the stomach (which had been made to him before I saw him) was as near the mark as anything, and because his discomfort was so disturbing that he was eager to have an operative attempt. We opened just above and to the right of the umbilicus and found locally a thickened transverse ridge of omentum. Exploration of the stomach, liver, gall bladder, and head of the pancreas showed all to be normal. In attempting to deliver the thickened omentum it was found to be fixed to the right

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side, low down. Following it out to the right it led to a finger-like process of omentum which was closely adherent about the cecum and a very much affected appendix which was isolated in a mass of unusually resistant adhesions. The omentum was freed, the thickened and condensed portion removed, and the appendix taken away. This man had a stormy convalescence immediately following the operation but made a fine recovery and was entirely relieved. Had one allowed this case to go on without interruption because the symptoms suggested a carcinoma and therefore a hopeless condition, the man would have become not only a complete invalid but very likely a subsequent acute attack of appendicitis would have been fatal. He gave nothing in his history which even suggested appendicitis.

No. 821. Age, 24.

This patient began to be ill in May, 1905. She had at first bad headaches; dizzy, nausea and vomiting, with pain in left side under short ribs. All of this improved later. She was put to bed for two months' rest treatment. She has had "fluttering" of the heart during last year. This would come on in bed and on first rising in the morning. Breath short this last year, especially on exertion. She kept house for her father for several years when he was an alcoholic and had a hard time. Appetite good. She has diarrhoea without apparent cause; frequent

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watery movements and feels weak after them. At times she has vomiting spells lasting only a few hours, with headache, leaving her weak. There is difficulty in swallowing; she chokes at times and again must cough, even when taking liquids. Sleeps well. The extensor muscles are weak and at times she complains of general weakness. Menses have been regular until July, 1905, since which time she has had none. Her usual pulse is 120, now 130. Her eyes protrude, with tension of eyes and exophthalmus. The voice is changed. She becomes hot all over at times with perspiration. At one time she experienced much discomfort from hot flashes. Frequent urination. At times the eyes feel "starey." She is obliged to wear glasses. Looking from a height troubles her. This patient was in a wretched condition and growing worse rapidly. There was a marked enlargement of the thyroid gland extending to the right and we advised extirpation. This was accordingly done, the right portion of the very much enlarged thyroid being taken away in its entirety. No definite report had been received from this patient until this report was almost ready for printing. Then from a brother of the patient we learned that she has made a complete recovery. The heart's action has become normal and all the discomforts as detailed in her history have disappeared. The eyes have withdrawn and are entirely normal. In fact her condition had become so much what it should be that she had married.

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A CASE OF PSEUDO-HERMAPHRODISM

No. 2475. Age, 15.

THIS girl was one of a family of six children. There are three sisters living, aged respectively thirty-five, thirty-four and thirty, and one sister died at the age of nine. One brother is living at age of thirty-three. The patient is the only one in the family known to be a deviate. She was brought up as a girl, and until one week ago did not realize that there was any marked difference from the normal. Others had thought something was wrong but not her family. Her voice has always been very peculiar, heavy and coarse; no change in it recently. She has been fearfully sensitive about herself always, and never dresses or bathes except alone. Her companions have been girls exclusively, but she has never played in any childhood games with them. Her tastes are all intellectual. She is fond of music and books, is a fine pianist, and much attached to her family, who are likewise devoted to her. Her ideas are beyond her age, reads literature in advance of her years, is bright in school and always has led her class.

After a preliminary examination — without anesthesia — which was conducted in the most gentle way possible lest the extremely hypersensitive patient should re-

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FIG. XXXV.

Pseudo-hermaphrodism.

This shows the enlarged clitoris with prominence on either side which suggests the presence of testicles. The loose folds beneath the clitoris lead downward to a cleft and depression containing the entrance to the vagina.

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FIG. XXXVI.

Forceps introduced into the vagina define its relation to the other parts.

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ceive offence, the following remarks were added to the record:

This case is remarkable in that the patient has never been examined until the last week. She has been reared as a girl, brought up in home life with comfortable surroundings, and is the youngest of a family of six, all the others being alive but one. She is rather under stature, but ruggedly developed otherwise. Her hair is thin on top of her head, but long like a girl's otherwise, and when seen by us it was in two braids reaching well below the shoulders. The larynx is distinctly masculine in type, being very prominent; and the voice is heavy, deep and masculine, more so even than that of a boy of fifteen years. This has always been noticeable about the voice. The torso is essentially male in type. The shoulders are square with a well-developed chest, and the mammary glands and nipples are those of a male. The abdominal region is masculine in type, the pelvis being narrower than in a girl of fifteen, and deeper. The pubes are prominent and covered with crisp black hair which extends upward in the middle line to the umbilicus. The legs are covered with black hair, entirely beyond anything we have ever seen in a female. The hands and feet are both distinctly feminine in type. Below the pubes is — apparently, at first sight — a well developed penis, somewhat smaller than the normal in a boy of fifteen. The underside of the penis is defective, and there is apparently a small opening here which appears to be the entrance to the urethra,

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although it was impossible to pass a probe. From either side of the root attachment of the penis to the pubes pass backward two prominent folds which recede to nothing at the perineum. Below the penis and between these folds, which are in the position of the labia majora, is a cleft-like depression, distinctly apparent, which leads to a canal into which a uterine sound passes with ease in the general direction of a vagina. Through the rectum this sound can be felt in exactly the same relationship that it would be in a normal vagina. The sound enters about two and one-half inches. At the upper extremity of the sound can be felt a small body which seemed to be a rudimentary uterus, and on the right side a right ovary could be felt, although we could not demonstrate one on the left side. A search for testicles revealed what is possibly one of them in the left fold, a little above the root of the apparent penis. If the testicle is located here, it is so soft and non-resistant that it is almost impossible to demonstrate.

After talking over the matter in a most thorough manner with the family of the patient, the whole situation in this case was left unreservedly in the hands of the family physician and consultants, and we were to do whatever seemed best for the patient. While we could find no authority for operative procedures, observation of and experience with such cases lead us to believe that one is justified in making any kind of an attempt to better conditions.

This patient was distinctly intellectual, beyond the aver-

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FIG. XXXVII.

A catheter in the vagina shows the relationship of the parts and the direction of the vagina.

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FIG. XXXVIII.
Pseudo-hermaphrodism. Normal size.

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age person of fifteen years; and it seemed to us that if the predominant type could be determined and made exclusive, that it would be a desirable thing.

When the parts anterior to the perineum were separated a funnel-shaped canal was shown leading to a marked construction of the same barely admitting a probe. This was at first mistaken for the vagina, the constricted portion being a stenosis of the latter. Upon forcibly dilating this apparent stricture, however, it was found to be a hymen, more deeply placed than usual but intact, and with a small opening leading into it, beyond which was a vagina of moderate depth. At the upper portion of the vagina was an infantile cervix, and bimanual examination discovered a small uterus above, with an ovary on the right side which seemed to be normal in size, and an apparent absence of ovary in the left side, because none could be palpated. Most careful search did not determine testicles.

A girl of fifteen with a vagina normally capacious, a uterus of any sort, and an ovary practically normal, no matter what the other conditions might be, could not well be treated as a male when the only absolute sexual indication of a male was a clitoris enlarged to the proportions of a penis. Therefore, all our ideas were concentrated on the proposition that this patient must continue to be treated as a girl; and final determination was that the hypertrophied organ should be removed, and testicles sought for, and (if found) also removed, since they must

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be undescended, and therefore would in a comparatively short time become functionless were they present. With this end in view, the abdomen was opened in the middle line, and the conclusions of the examination were confirmed; that is, the uterus was practically an infantile uterus, although there were normal ovaries on both sides, even if we had not been able to detect the left one. A most painstaking search was then made for the testicles, both within and without the abdomen, but none could be found. The pubes seemed more prominent on the left side in the vicinity of the external ring, as is well shown in the photograph. A sub-cutaneous incision through the fat was made from the abdominal incision into this region, but nothing resembling a testicle could be located. The appendix was found irritated, containing an enterolith, and was removed. The hypertrophied clitoris was then also amputated and all wounds closed for primary union, which resulted.

An interesting occurrence following the operation was that on the first night the patient waked suddenly from sleep, thinking she was in a fire, and made such efforts to escape that she had to be restrained. This was followed by a very severe headache (congestive in type), relieved in part by glonoin. On the following night at midnight the patient had another bad dream, awakened from sleep suddenly, making frantic efforts to get out of bed, and had to be restrained. This continued for three minutes only. She slept about three and one-half hours altogether.

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FIG. XXXIX.

Pseudo-hermaphrodism. Normal relationship of anus.

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The third night she slept five and one-half hours, waking up several times through the night, and for two or three minutes after waking was bewildered and confused mentally. The next night she slept nearly all night, waking several times, but with the mind clear and readily passing off to sleep again; and from that time on the progress of her case was without incident. See Figs. 35, 36, 37, 38, and 39.

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FLUIDS IN THE ABDOMINAL CAVITY

WE wish to call attention to a method of introducing a saline solution or oil into the peritoneal cavity with complete definiteness as to the amount used. By all the methods we have ever seen no one could possibly tell just how much fluid was left in the peritoneal cavity. No matter how much may have been put in at first, by the time the abdominal wound was closed much of it had overflowed and run to waste and there was no definiteness about the process; moreover, in the closing of the last part of the peritoneal incision, much indefiniteness also obtained, so much so that many times there was a leakage of fluid into the incision which did not favor union by first intention.

Figure 40 shows diagramically the last stages of closing the peritoneum. The third last stitch from the end is left in a loop sufficiently long to hook it over the forefinger of the right hand of the assistant. The second one is left long enough to slip over the middle finger, and the last leaves a loop into which a Paean forceps is inserted and closed leaving the loop in the free space above the jaws of the forceps. A Paean forceps is then put upon the free end of the ligature and the needle is left on the further side exactly as shown in the diagram. When

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FIG. XL.

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FIG. XLI.

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everything is in place as here shown, Fig. 41 shows the completion of the process. The irrigating tube is inserted into the abdomen and the fluid distributed according to the operator's election, both as to location and amount. After the proper quantity is introduced, the forefinger of the assistant's hand is slipped out of the first loop, the middle finger drawing it snugly into place; the middle finger then releases the next loop, and the operator draws this into place by the loop that was engaged in the Paean forceps. This in turn is drawn into place by the free end of the suture and that portion still engaged with the needle. This closes the peritoneum about the tube. When a sufficient amount of fluid is introduced the tube is withdrawn and the ends tied in the usual manner. In this way the peritoneum is definitely closed without any leakage with a definite amount of fluid included in the abdomen. This method as diagramed here works and is efficient, and we commend it for trial to others if they have found any difficulty in introducing fluid and especially oil into the abdominal cavity.

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SUMMARY OF MEDICAL CASES

Diagnosis	No. of Cases	Cured	Impr.	Not Impr.	Died
Abd. carcinoma, secondary	1	..	..	..	1
Acute bronchitis	10	8	2	..	..
" epidymitis	3	3	..	..	..
" indigestion	2	1	1	..	..
" mania	2	..	1	1	..
" prostatitis	2	..	2	..	..
" rhinitis	8	8	..	..	..
" yellow atrophy of liver	1	..	..	..	1
Adenitis, gonorrhoeal	1	..	1	..	..
Albuminuria	1	..	1	..	..
Amenorrhoea	1	..	1	..	..
Anaemia	2	..	2	..	..
Angina pectoris	1	..	..	1	..
Ascites	1	..	..	1	..
Burn, general	1	..	..	..	1
Carcinoma of chest wall	1	..	..	..	1
" " intestines	2	..	..	1	1
" " stomach	1	..	..	..	1
" " thyroid gld.	1	..	..	..	1
" " prostate	1	..	..	..	1
Cardiac insufficiency	4	..	..	1	3
Cerebral hemorrhage	1	..	..	..	1
Chronic cystitis	1	..	..	..	1
" eczema	1	1	..	..	..
" interstitial nephritis	13	..	3	2	8
" peritonitis	1	1	..	..	..
Diabetes mellitus	2	..	..	2	..
Diphtheria	1	1	..	..	..
Eclampsia	1	..	..	..	1
Endometritis	1	..	1	..	..
Enteritis	2	2	..	..	..
Gout	1	..	..	1	..
Hemiplegia	3	..	..	3	..
Herpes zoster	1	1	..	..	..
Infantile uterus	1	..	..	1	..
Intercostal neuralgia	1	1	..	..	1
Intestinal obstruction	1	..	..	..	..
La grippe	15	15	..	..	..
Laryngitis	3	3	..	..	..
Lead poisoning	3	..	3	..	..
Locomotor ataxia	1	..	..	1	..
Malaria	2	2	..	..	..
Malnutrition	5	3	2	..	..
Mastitis, acute	1	1	..	..	..
Melancholia	2	..	..	2	..
Meningitis, central	1	..	..	..	1
Menorrhagia	3	2	1	..	..
Mercurial poisoning	1	..	1	..	..
Migraine	1	1	..	..	..
Myelitis	2	..	2	..	..
Myomata uteri	1	..	1	..	..
Nervous indigestion	1	1	..	..	..
" shock	1	..	1	..	..
Neuralgia, supra-orbital	1	..	1	..	..
Neurasthenia	10	..	7	3	..
Neuritis	1	..	1	..	..
No diagnosis	7	..	..	7	..
Orchitis	2	1	1	..	..

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Diagnosis	No. of Cases	Cured	Impr.	Not Impr.	Died
Phlebitis	1	1	..	..	..
Pneumonia	7	4	..	..	3
Pregnancy	1	..	..	1	..
Ptomaine poisoning	1	1	..	..	..
Pulmonary oedema	1	..	..	..	1
" tuberculosis	4	..	4	..	..
Pyelitis	1	1	..	..	..
Rheumatic fever	9	3	4	2	..
Rheumatism, muscular	1	1	..	..	..
Salpingitis	5	..	5	..	..
Scarlet fever	2	2	..	..	..
Sciatica	2	..	2	..	..
Senile dementia	1	..	..	1	..
Senility	1	..	..	..	1
Sunstroke	1	..	..	1	..
Tenia solium	1	1	..	..	..
Threatened miscarriage	2	2	..	..	..
Tonsilitis, follicular	15	15	..	..	..
Typhoid fever	12	10	..	..	2
Urticaria	1	1	..	..	..
Totals	212	98	51	32	31

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SUMMARY OF SURGICAL CASES, 1907–1911

Diagnosis	Operation	No. of Cases	No. of Operat.	Cured	Impr.	Not Impr.	Died
Abortion	No operation	1	..	1	..	..	..
" incomplete	Curetting	53	62	53	..	..	..
Abrasion of lower lip	Extirpation	1	1	1	..	..	..
Abscess, alveolar	Op., cur. and dr.	2	2	2	..	..	..
" axillary	Extirpation	1	1	1	..	..	..
" coccygeal	Op., cur. and dr.	1	1	1	..	..	..
" inguinal	" " " "	3	3	3	..	..	..
" mammary	" " " "	3	3	3	..	..	..
" of abd. wall	" " " "	1	1	1	..	..	..
" " arm	" " " "	1	1	1	..	..	..
" " back	" " " "	1	1	1	..	..	..
" " face	" " " "	1	1	1	..	..	..
" " frontal bone	" " " "	1	1	1	..	..	..
" " pelvis	" " " "	1	1	1	..	..	..
" " perineum	" " " "	2	3	2	..	..	..
" " prostate gl.	No operation	1	..	..	..	1	..
" " ribs	Op., cur. and dr.	1	1	1	..	..	..
" " scalp	" " " "	1	1	1	..	..	..
" " thigh	Extirpation	1	1	1	..	..	..
" " "	Op., cur. and dr.	1	1	1	..	..	..
" peri-rectal	" " " "	6	7	6	..	..	..
" urethral	" " " "	1	1	1	..	..	..
" vulvo-vaginal	" " " "	2	2	2	..	..	..
Adenitis, ax., sup.	" " " "	3	3	3	..	..	..
" cervical	Extirpation	7	7	7	..	..	..
" " sup.	"	8	8	8	..	..	..
" " "	Op., cur. and dr.	24	24	24	..	..	..
Adeno-carc. cranii	Extirpation	1	1	..	..	..	1
" mammae	"	6	6	6	..	..	..
" recti	Serum treatment	1	..	..	1	..	..
Adeno-fibroma mammae	Extirpation	11	12	11	..	..	..
Adenoids, p. n.	Adenectomy	14	15	14	..	..	..
Adherent clitoris	Rupture of adhesions	4	7	4	..	..	..
Adhesions of intestines	No operation	2	..	..	..	2	..
Amenorrhoea	Dilatation and curetting	1	1	..	1	..	..
Aneurism, sub-clavian, r.	No operation	2	..	..	..	2	..
Appendicitis, acute	" "	5	..	..	5	..	..
" int.	" "	9	..	..	9	..	..
Ascites	Aspiration	..	1	..	..	..	..
Atresia vaginae	Dilatation	2	3	2	..	..	..
Bite of cat	No operation	2	..	2	..	..	..
" " dog	" "	1	..	1	..	..	..
Boil, forehead	" "	1	..	1	..	..	..
" neck	Opened and cauterized	1	1	1	..	..	..
Broken arch of foot	X-ray and plates	1	..	..	1	..	..
Bullet in back	Extirpation	1	1	1	..	..	..
" " "	X-ray	1	..	..	..	1	..
Burn of forearm	Skin grafting	1	1	1	..	..	..
" " hand and arm	No operation	1	..	1	..	..	..
Bursa of ankle	Extirpation	1	1	1	..	..	..
" " wrist	"	1	2	1	..	..	..
Carbuncle	No operation	2	..	2	..	..	..
" of face	Op., cur. and dr.	2	2	2	..	..	..
" " neck	" " " "	8	8	5	3	..	..
" " wrist	" " " "	1	1	1	..	..	..
Carcinoma mammae	Extirp., w. ax. glds.	24	24	23	..	..	1
" "	Serum treatment	2	..	..	1	..	1
" "	X-ray	1	..	..	..	1	..
Adenoma mammae, l.	Extirpation	1	2	1	..	..	..
Carcinoma mam., secondary	"	6	6	6	..	..	..
" mam., secondary	Serum treatment	1	..	..	..	1	..
" of ax. glds.	Extirpation	1	1	1	..	..	..
" " cerv. glds.	"	2	2	1	..	..	1
" " chest wall	"	1	1	..	1	..	..
" " eyelid	"	1	1	1	..	..	..
" " labia maj.	"	1	1	1	..	..	..
" " lip	"	3	3	3	..	..	..
" " mouth	"	3	4	3	..	..	..
" " neck	"	1	1	..	..	..	1
" " nose	"	1	1	..	1	..	..
" " parotid	Inoperable	1	1	..	..	1	..
" " rectus muscle	Extirpation	1	1	1	..	..	..
" " skin	"	1	3	..	1	..	..
" recti	"	3	4	3	..	..	..
" uteri	Curetting	1	1	..	1	..	..
" "	No operation	2	..	..	..	2	..
" vaginae	For examination	1	1	..	..	1	..
Carious teeth	Extraction	1	2	1	..	..	..
Cataract	Enucleation	2	2	2	..	..	..
Chronic mastitis	Extirpation	2	2	2	..	..	..

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Diagnosis	Operation	No. of Cases	No. of Operat.	Cured	Impr.	Not Impr.	Died
Chronic metritis	Curetting	..	1	..	..	..	..
" orchitis, l.	Castration	1	1	1	..	..	..
Cicatrix of forearm	Extirpation	1	1	1	..	..	..
Cleft palate	Staphylorrhaphy	1	1	1	..	..	..
Concussion of brain	No operation	1	..	1	..	..	..
Contraction of hymen	Dilatation	1	1	1	..	..	..
Cornu capitis	Extirpation	..	1	..	..	..	..
Curvature of spine	Plaster jacket	3	3	..	3	..	..
" " "	X-ray	2	..	..	..	2	..
Cyst.-adeno-fib. mammae	Extirpation	5	6	5	..	..	..
Cyst. dermoid, supra-orb.	Extirpation	1	1	1	..	..	..
Cystitis	Cystoscopy	1	1	..	..	1	..
"	Lavage of bladder	4	4	..	4	..	..
Cystocele	Ant. colporrhaphy	14	55	14	..	..	..
Cyst of axilla	Extirpation	1	1	1	..	..	..
" " Bartholin's gld.	"	1	3	1	..	..	..
" " " "	No operation	1	..	..	..	1	..
" " eyelid	Extirpation	3	4	3	..	..	..
" " face	"	1	1	1	..	..	..
" " lower lip	"	1	1	1	..	..	..
" " prepuce	"	1	1	1	..	..	..
" " upper lip	"	1	1	1	..	..	..
" " vagina	"	..	2	..	..	..	..
" " wrist	"	2	2	2	..	..	..
Deviation of septum nasi	Fracture and fixation	1	1	1	..	..	..
Dilatation of bladder	Dilatation of urethra	1	1	..	1	..	..
Dislocation of coccyx	Extirpation	2	3	2	..	..	..
" " hip	Reduction of fixation	3	3	3	..	..	..
" " knee	" " "	1	1	1	..	..	..
" " phalanx	" " "	1	3	1	..	..	..
" " rib	" " "	1	1	1	..	..	..
" " rib	Fixation by wiring	1	1	1	..	..	..
" " shoulder	Reduction and fixation	1	2	1	..	..	..
" " thumb	" " "	1	1	1	..	..	..
" " wrist	" " "	..	1	..	..	..	..
Dupuytreu's contraction	Plastic operation	1	1	1	..	..	..
Empyema	Resection of rib	..	1	..	..	..	..
" of frontal sinus	Excision of bone	1	1	1	..	..	..
Endometritis	Curetting	99	131	99	..	..	..
"	Examination under ether	1	..	..	..	1	..
Epilepsy	Trephining	1	1	..	1	..	..
Epispadias	Plastic operation	1	1	..	1	..	..
Epithelioma of axilla	Extirpation	1	1	1	..	..	..
" " back	"	1	1	1	..	..	..
" " face	"	1	1	1	..	..	..
" " lip	"	3	3	3	..	..	..
" " nose	"	1	1	1	..	..	..
" " scalp	"	1	1	1	..	..	..
" " tongue	"	2	2	2	..	..	..
" " vulva	"	1	1	1	..	..	..
Erosion of cervix uteri	"	1	1	1	..	..	..
Exostosis of coccyx	"	2	2	2	..	..	..
" " femur, r.	"	1	1	1	..	..	..
" " metatarsus	"	1	2	1	..	..	..
Fibro-cystoma of face	"	1	1	1	..	..	..
Fibroma mammae	"	3	3	3	..	..	..
Fissure ani	Excision	7	11	7	..	..	..
" "	No operation	1	..	..	..	1	..
Fistula in ano	" "	5	8	5	..	..	..
" " "	Op., cur. and dr.	6	6	6	..	..	..
Fracture and dislocation of head of humerus, r.	Resection of head of humerus.	1	2	1	..	..	..
Fracture, Colles	Reduction and fixation	1	1	1	..	..	..
" of arm	" " "	2	2	2	..	..	..
" " clavical	" " "	2	2	2	..	..	..
" " elbow	" " "	2	2	2	..	..	..
" " femur	" " "	2	2	2	..	..	..
" " fibula, ununited	" " " by wire	1	1	1	..	..	..
" " 1st and 2d fingers	Amputation of 1st, reduction and fixation of 2d	1	2	1	..	..	..
" " hip	Reduction and fixation	4	4	4	..	..	..
" " humerus	" " "	6	6	6	..	..	..
" " humerus	X-ray	1	..	..	..	1	..
" " leg	Reduction and fixation	6	6	6	..	..	..
" " leg	X-ray	2	..	..	..	2	..
" " malar and sup. max.	Reduction and fixation	1	1	1	..	..	..
" " radius	" " "	1	1	1	..	..	..
" " ribs	" " "	2	2	2	..	..	..
" " septum nasi	" " "	3	3	3	..	..	..
" " skull	Trephining	2	2	2	..	..	..
" " tibia	Reduction and fixation	1	1	1	..	..	..
" " ulnar	" " " by wire	1	1	1	..	..	..
" Pott's	" " "	1	2	1	..	..	..
" " "	X-ray	1	..	..	..	1	..
Gangrene of foot	Amputation, thigh	2	2	2	..	..	..
Glaucoma	Iridectomy	1	1	1	..	..	..
"	No operation	1	..	..	..	1	..
Goitre, cystic	Thyroidectomy	4	4	4	..	..	..
"	No operation	2	..	..	..	2	..
Gunshot of abd. wall	Exploration and drainage	1	1	1	..	..	..

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Diagnosis	Operation	No. of Cases	No. of Operat.	Cured	Impr.	Not Impr.	Died
Gunshot of chest	Exploration and drainage	1	1	1	..	..	..
" " leg	" " "	1	1	1	..	..	..
" " scalp	" " "	1	1	1	..	..	..
Hallux valgus, d.	Osteotomy	1	2	1	..	..	..
Hammer toe	Amputation	1	2	1	..	..	..
Hematuria	Cystoscopy	2	2	..	..	2	..
Hematoma, ing. l.	Op., cur. and dr.	1	1	1	..	..	..
" of forehead	" " "	1	1	1	..	..	..
" " kidney, r.	No operation	1	..	1	..	..	..
" " leg	Opened and drained	1	1	1	..	..	..
" " thigh	" " "	1	1	1	..	..	..
" " elbow, septic	" " "	1	1	1	..	..	..
Hemorrhage into eye	No operation	1	..	1	..	..	..
Hemorrhoids	Clamp and cautery	1	1	1	..	..	..
"	Proctorrhaphy	34	47	34	..	..	..
" naevoid	Resection of rectum	1	1	1	..	..	..
Hernia, ind. ing., cong.	Yarn truss	2	..	2	..	..	..
" " " d.	Truss	1	..	..	1	..	..
Hydrocele	Extirpation of sac	7	12	7	..	..	..
" d.; orchitis, l.	" " " l.; castration, r.	1	2	1	..	..	..
" d.; tubercular	" " " d.	1	2	1	..	..	..
" l.; orchitis, l.	" " " l.	1	1	1	..	..	..
Hydrothorax		2	2	1	1	..	..
Hypert. of cervix uteri	Amputation of cervix	..	3	..	..	..	..
" " inf. turbinate	Turbinectomy	1	1	1	..	..	..
" " labia majora	Extirpation	..	1	..	..	..	..
" " prostate gld.	No operation	1	..	..	..	1	..
" " prostate gld.	Prostatectomy, perineal	9	9	8	..	..	1
" " tonsils	Tonsillectomy	63	126	63	..	..	..
Hypospadias	Plastic operation	2	2	1	1	..	..
Impaction of feces	Removal under ether	1	1	1	..	..	..
Incised wound of hand	No operation	1	..	1	..	..	..
Incontinence of urine	" "	1	..	..	..	1	..
Ingrowing toe nails	Extirpation	2	3	2	..	..	..
Intestinal obstruction	Operation declined	1	..	..	..	1	..
Keratosis pilaris, wrist	Extirpation	1	2	1	..	..	..
Lac. cervix	Trachelorrhaphy	25	117	25	..	..	..
Laceration of hand	Suture	..	1	..	..	..	..
" " nose	No operation	1	..	1	..	..	..
Lipoma of arm	Extirpation	1	1	1	..	..	..
" " lip	"	1	3	1	..	..	..
Loosened tooth	Extraction	..	1	..	..	..	..
Lymphadenitis	Extirpation	1	1	1	..	..	..
Malformation of ears	Otorrhaphy	..	2	..	..	..	..
Maxillary sinusitis	Op., cur. and dr.	1	1	1	..	..	..
Mole of abd. wall	Extirpation	..	1	..	..	..	..
" " back	"	1	1	1	..	..	..
Menorrhagia	Curetting	1	1	..	1	..	..
Myoma uteri	Curetting	1	1	..	1	..	..
" "	Myomectomy, vag.	1	1	1	..	..	..
" "	No operation	2	..	..	..	2	..
Myomata uteri; pregnancy	Examination under ether	1	..	..	..	1	..
Naevus of face	Extirpation	2	3	2	..	..	..
Necrosis of fibula	Curetting	1	1	1	..	..	..
" " frontal bone	Trephining	1	1	1	..	..	..
" " great toe	Amputation of toe	1	1	1	..	..	..
" " hand	" " first finger	1	1	1	..	..	..
" " inf. maxilla	Curetting	3	5	3	..	..	..
" " sup. maxilla	"	1	1	..	1	..	..
" " tibia	Op., cur. and dr.	1	1	1	..	..	..
Needle in foot	Exploration of foot	1	1	..	..	1	..
Neuralgia, fifth nerve	Resection of nerve	3	3	3	..	..	..
No diagnosis	Exploratory aspiration	1	1	..	..	1	..
" "	No operation	38	..	..	..	38	..
" "	X-ray	4	..	..	..	4	..
Nephritis; convulsions	Abortion	1	1	1	..	..	..
Osteo-myelitis of hand	Op., cur. and dr.	1	1	1	..	..	..
" " tibia	" " "	3	3	3	..	..	..
Papilloma of tongue	Extirpation	1	1	1	..	..	..
Peri-ostitis of tibia	Open incision	4	5	4	..	..	..
Phimosis	Circumcision	15	20	15	..	..	..
"	Dilatation	3	5	3	..	..	..
Phlebitis	Op., cur. and dr.	1	1	..	1	..	..
Phthisis bulbi	Extirpation	1	1	1	..	..	..
Placenta praevia	Induced labor	1	1	1	..	..	..
Polypus nasi	Extirpation	1	1	1	..	..	..
" recti	"	..	1	..	..	..	..
" urethrae	Extirpation	1	1	1	..	..	..
" uteri	"	6	9	6	..	..	..
" vaginae	Examination under ether	1	1	1	..	..	..
Pregnancy	Miscarriage	2	..	..	..	2	..
" eclampsia	Dilatation of cervix	7	9	7	..	..	..
Proctitis	" " rectum	1	1	..	1	..	..
Prolapsus recti	Resection of rectum	1	1	1	..	..	..
" uteri	Manual replacement	1	1	1	..	..	..
Pyo-thorax	Thoracoplasty	1	1	..	1	..	..
Rectal neuritis	Excision of cicatrix	1	1	1	..	..	..
Rectocele	Post. colporrhaphy	1	1	1	..	..	..
Recto-vaginal fistula	Primary closure	2	89	2	..	..	..
		..	1	..	..	..	..

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Diagnosis	Operation	No. of Cases	No. of Operat.	Cured	Impr.	Not Impr.	Died
Retro-flexio uteri	Manual replacement	3	3	..	3	..	..
Retro-versio uteri	" "	3	3	..	3	..	..
Rupt. perineum	Perineorrhaphy	2	136	2	..	..	..
" " complete	"	2	8	2	..	..	..
Sarcoma of abd. muscles	Extirpation	1	1	1	..	..	..
" " back	" skin grafting	1	2	1	..	..	..
" " face	No operation	1	..	..	..	1	..
" " hand	Amputation of hand	1	1	1	..	..	..
" " pelvis	Inoperable	1	1	..	..	..	1
" " testis	Castration	1	1	1	..	..	..
Sepsis mammae	Extirpation	1	3	1	..	..	..
" of hand	No operation	1	..	1	..	..	..
" " "	Op., cur. and dr.	9	10	9	..	..	..
" " "	Op., cur. and dr.; amputation of mid. finger	1	4	1	..	..	..
" " lip	Op., cur. and dr.	1	1	1	..	..	..
" " thumb	" " "	3	3	3	..	..	..
" " toe	Amputation of toe	1	1	1	..	..	..
" " "	Extirpation of nail	1	1	1	..	..	..
Sinus, inguinal	Curetted	..	1	..	..	..	..
" of abd. wall	"	4	5	4	..	..	..
" " back	No operation	1	..	1	..	..	..
" " leg	Removal of wire	2	2	2	..	..	..
" " scrotum	Curetted	1	1	1	..	..	..
" post op.	"	1	1	..	..	1	..
Spasm of meatus ur.	Incision	1	1	1	..	..	..
Splinter under nail	Removal of splinter	1	1	1	..	..	..
Sprain of ankle	Fixation in plaster	3	3	3	..	..	..
" " shoulder	No operation	1	..	1	..	..	..
Stenosis os uteri	Dilatation	20	27	20	..	..	..
" vaginae	"	2	2	2	..	..	..
Stone in bladder	Perineal lithotomy	1	1	..	..	..	1
Stricture urethrae	Dilatation	7	7	6	..	..	1
" "	Ext. urethrotomy	1	1	..	..	..	1
Suture, silver, in chest wall	Extirpation	1	1	1	..	..	..
Synovitis of knee	Fixation in plaster	1	1	..	..	1	..
Syphilis	606 Treatment	2	2	..	2	..	..
Talipes equinus	Tenotomy	1	1	1	..	..	..
Tongue tied	Incision	1	1	1	..	..	..
Torticollis	Tenotomy	1	1	1	..	..	..
Trauma of back	No operation	2	..	2	..	..	..
" " eyelid	" "	1	..	1	..	..	..
" " face	" "	1	..	1	..	..	..
" " finger	X-ray	1	..	..	..	1	..
" " foot	Amputation of great toe	1	1	1	..	..	..
" " "	No operation	1	..	1	..	..	..
" " "	Opened; anti-tetanic serum	1	1	1	..	..	..
" " "	"	1	1	1	..	..	..
" " forearm	Tenotomy	1	1	..	1	..	..
" " hand	Amputation of fingers	2	2	2	..	..	..
" " "	Amputation of hand	1	1	1	..	..	..
" " "	No operation	3	..	3	..	..	..
" " "	Suture	3	3	3	..	..	..
" " head	Op., cur. and dr.	1	1	1	..	..	..
" " "	No operation	1	..	1	..	..	..
" " knee	" "	5	..	1	4	..	..
" " knees	X-ray	1	..	..	..	1	..
" " lip	Suture	1	1	1	..	..	..
" " scalp	"	1	1	1	..	..	..
" " thumb	No operation	1	..	1	..	..	..
" " "	X-ray	1	..	..	..	1	..
" " ulnar nerve	Dissection of nerve	1	1	..	1	..	..
Tuberculosis, abd.	No operation	1	..	..	..	1	..
" of carpus	Resection of carpus	1	1	..	1	..	..
" " "	Amputation of hand	1	1	1	..	..	..
" " hand	Op., cur. and dr.	1	1	..	1	..	..
" " knee	Resection of knee	2	6	2	..	..	..
" " wrist	Op., cur. and dr.	1	1	..	1	..	..
" " testicle	Castration	1	1	1	..	..	..
" " "	No operation	1	..	..	..	1	..
Tumor of axilla	Extirpation	1	1	1	..	..	..
Ulcer of leg	Skin grafting	1	2	1	..	..	..
" " lip	Extirpation	1	1	1	..	..	..
" " rectum	"	1	2	1	..	..	..
" trophic	"	1	1	1	..	..	..
Undescended testicle	Fixation in scrotum	1	2	1	..	..	..
Unruptured hymen	Dilatation	2	2	2	..	..	..
Uretheal caruncle	Extirpation	2	8	2	..	..	..
Vaginismus	Dilatation	1	2	1	..	..	..
"	Perineorrhaphy	1	1	1	..	..	..
Varicocele, l.	Extirpation of veins	2	4	2	..	..	..
Varicosis of leg	" " "	1	1	1	..	..	..
" " "	No operation	1	..	..	1	..	..
Volunteers for	Skin grafting	2	2	2	..	..	..
Vomiting of pregnancy	Abortion	1	1	1	..	..	..
Wart on arm	Extirpation	1	3	1	..	..	..
" " face	"	2	3	2	..	..	..
" " forehead	"	..	1	..	..	..	..
" " side	"	1	1	1	..	..	..
" " wrist	"	..	1	..	..	..	..

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Diagnosis	Operation	No. of Cases	No. of Operat.	Cured	Impr.	Not Impr.	Died
Web fingers	Plastic operation	1	1	1	..	..	..
Wen of back	Extirpation	3	3	3	..	..	..
" " " suppurating	Op., cur. and dr.	1	2	..	1	..	..
" " face	Extirpation	2	3	2	..	..	..
" " leg	"	1	1	1	..	..	..
" " neck	"	5	5	5	..	..	..
" " scalp	"	3	3	3	..	..	..
	Totals	1001	1467	841	63	87	10

Total number of general surgical cases	1001
Total number of deaths	10
Percentage of deaths to number of cases	1%
Total number of general surgical cases	1001
Total number of abdominal cases	924
Total number of surgical cases	1925
Total number of deaths	52
Percentage of deaths to total number of surgical cases	2.7%

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SUMMARY OF ABDOMINAL CASES, 1907–1911, INCLUSIVE

Diagnosis	Operation	No. of Cases	No. of Operations	Cured	Improved	Not Improved	Died
Ac. hemor. pancreatitis	Abd. exploration	2	2	..	..	..	2
Adeno-carc. ov. d.	" hysterectomy	1	1	1	..	..	..
" " " append. int.	Tubo-ovariect. d.; appendicect.	1	1	1	..	..	..
" recti	Resection of rectum	2	2	2	..	..	..
" uteri	Vag. hysterectomy	3	3	3	..	..	..
Adhesions of g. bladder; append. int.	Abd. exploration; appendicect.	2	2	1	..	..	1
" " intestines, p. o.	" "	16	16	14	..	..	2
" " " " append. int.	" " appendicect.	2	2	2	..	..	..
" " kidney, p. o.	Lumbar exploration	1	1	1	..	..	..
" " stomach	Abd. exploration	1	1	..	1	..	..
Append. acute	Appendicectomy	130	130	128	..	..	2
" " cholecystitis	" cholecystectomy	1	1	1	..	..	..
" " cystomata ov. d.	" resect. ov. d.	8	8	8	..	..	..
" " cystomata ov. d.	" resect. ov. l.; tubo-ov. r.; vent. susp.	1	1	1	..	..	..
" " cystomata ov. d.	" resect. ov. r.; tubo-ov. l.	2	2	2	..	..	..
" " cystomata ov. d.	" tubo-ov. d.	1	1	1	..	..	..
" " cystomata ov. d.	" tubo-ov. d.; vent. susp.	1	1	1	..	..	..
" " cystomata ov. l.	" tubo-ov. l.	4	4	4	..	..	..
" " cystomata ov. r.	" resect. ov. r.	4	4	4	..	..	..
" " cystomata ov. r.	" tubo-ov. r.	9	9	9	..	..	..
" " hernia, ind. ing. r.	" thro. the ring; herniotomy	1	1	1	..	..	..
" " hydro-salpinx, d.; myoma uteri	" tubo-ov. l.; salpingect. r.; myomect.; vent. susp.	1	1	1	..	..	..
" " movable kidney	" lumbar fixation	1	2	1	..	..	..
" " myomata uteri; cystomata ov. r.	" myometcomy; resection ov. r.; vent. susp.	1	1	1	..	..	..
" " pregnancy, 4, 5 and 6 mos.	"	3	3	3	..	..	..
" " pyo-salpinx, d.	" tubo-ovariect. d.	3	3	3	..	..	..
" " strangulation of intestines	" resection of intestines	1	1	..	..	..	1
" " suppurative	" drainage	17	17	12	..	..	5
" " suppurative	" no drainage	16	16	16	..	..	..
" int.	"	80	80	80	..	..	..
" " cystomata ov. d.	" resection ov. d.	7	7	7	..	..	..
" " cystomata ov. d.	" tubo-ov. d.	1	1	1	..	..	..
" " cystomata ov. d.	" tubo-ov. d.; vent. susp.	1	1	1	..	..	..
" " cystomata ov. d.	" tubo-ov. l.; resection ov. r.; vent. susp.	1	1	1	..	..	..
" " cystomata ov. l.	" resection ov. l.	2	2	2	..	..	..
" " cystomata ov. l.	" resection ov. l.; vent. susp.	1	1	1	..	..	..
" " cystomata ov. r.	" resection ov. r.	4	4	4	..	..	..
" " cystomata ov. r.	" tubo-ovariect. r.	3	3	3	..	..	..
" " hernia ind. ing. r.	" herniotomy	1	2	1	..	..	..
" " hernia p. o.	" herniotomy	2	2	2	..	..	..
" " pregnancy	"	1	1	1	..	..	..
" " prolapsus uteri	" ventral fixation	1	1	1	..	..	..
" " retroversio uteri	" ventral suspension	4	4	4	..	..	..
" " salpingitis	" salpingectomy	3	3	3	..	..	..
Carcinoma of bladder	Abd. exploration	1	1	..	..	1	..
" " intestines	Abd. exploration	6	6	..	3	2	1
" " "	Inguinal colostomy	2	4	..	2	..	..
" " "	Lumbar "	1	1	..	..	..	1
" " "	Resection of intestines	4	4	..	..	..	4
" " liver	Abd. exploration	3	3	..	..	..	3

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Carcinoma of ovarii, d.						
" " " append. int.						
" " r.						
" recti						
" "						
" uteri						
" "						
" "						
" " append. int.						
" vaginae						
" vaginae; append. int.						
Cholelithiasis						
"						
"						
" append. int.						
" append. int.						
" append. int.						
" stenosis of intestines						
Chronic endometritis						
" " append. int.						
" metritis						
" "						
" " append. int.						
" nephritis						
Cystomata ov. d.						
" " "						
" " "						
" " "						
" " "						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " vent. susp., faulty						
" " "						
" " " append. int.						
" " " append. int.						
" " l.; append. int.						
" " " append. int.						
" " " myomata uteri; append. int.						
" " " retroversio uteri						
" " " retroversio uteri						
" " " vent. fixation, faulty						
" " r.						
" " "						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " append. int.						
" " " chronic metritis						
" " " prolapsus uteri						
Tubo-ovariect., d.	1	1	1	..	..	..
" " " appendicect.	1	1	1	..	..	..
Abd. exploration	1	1	..	..	1	..
Inguinal colostomy	2	2	..	2	..	..
Extirpation of rectum	1	1	1	..	..	..
Abd. hysterectomy	4	5	1	..	..	3
Vag. hysterectomy	9	9	9	..	..	..
Vagino-abd. hysterectomy	1	1	1	..	..	..
Abd. hysterectomy; appendicect.	7	7	7	..	..	..
Abd. exploration	1	1	..	..	1	..
Abd. exploration; appendicect.	1	1	1	..	..	..
Cholecystectomy	3	3	3	..	..	..
Cholecystostomy	10	10	9	..	..	1
Cholecystotomy	11	13	11	..	..	..
Cholecystectomy; appendicect.	8	9	7	..	..	1
Cholecystostomy "	8	8	7	..	..	1
Cholecystotomy "	3	3	3	..	..	..
Cholecystectomy; enterorrhaphy	1	1	1	..	..	..
Vag. hysterectomy	2	2	2	..	..	..
Vagino-abd. hysterectomy; appendicect.	1	1	1	..	..	..
Abd. hysterectomy	3	3	3	..	..	..
Vag. hysterectomy	19	19	19	..	..	..
Abd. hysterectomy; appendicect.	6	6	6	..	..	..
Exploration of kidney	1	1	1	..	..	..
Ovariectomy, r.; resection ov. l.	1	1	1	..	..	..
Resection ov. d.	1	1	1	..	..	..
Tubo-ovariect. d.	2	2	2	..	..	..
" " " vent. susp.	2	2	2	..	..	..
Tubo-ovariect. r.; resection ov. l.; vent. susp.	1	1	1	..	..	..
Abd. hysterectomy; appendicect.	1	1	1	..	..	..
Resection ov. d.; appendicect	1	1	1	..	..	..
" " " appendicect.; vent. susp.	4	4	4	..	..	..
Tubo-ovariect. d.; appendicect.	6	6	6	..	..	..
" " " vent. susp.; appendicect.	21	21	21	..	..	..
" " l.; resect. ov. r.; appendicect.	4	4	4	..	..	..
" " " resect. ov. r.; appendicect.; vent. susp.	3	3	3	..	..	..
" " r.; resect. ov. l.; appendicect	3	3	3	..	..	..
" " " resect. ov. l.; appendicect.; vent. susp.	3	3	3	..	..	..
" " d.; vent. susp.	1	1	1	..	..	..
" " l.	8	8	8	..	..	..
Abd. hysterectomy; appendicect.	1	1	1	..	..	..
Resection ov. l.; appendicect.	2	2	2	..	..	..
Tubo-ovariect. l.; appendicect.	7	7	7	..	..	..
" " " vent. susp.; appendicect.	15	15	15	..	..	..
" " " myomectomy; appendicect.	3	3	3	..	..	..
Resection ovarii l.; vent. susp.	1	1	1	..	..	..
Tubo-ovariect., l.; vent. susp.	1	1	1	..	..	..
" " " vent. susp.	1	1	1	..	..	..
" " r.	2	2	2	..	..	..
Vaginal ovariectomy, r.	1	1	1	..	..	..
Abd. hysterectomy; appendicectomy	1	1	..	..	..	1
Resection ov. r.; appendicectomy	4	4	4	..	..	..
" " " vent. susp.; appendicectomy	4	4	4	..	..	..
Tubo-ovariectomy, r.; appendicectomy	9	9	9	..	..	..
Abd. hysterectomy	1	1	1	..	..	..
Ovariectomy, r.; vent. susp.	2	2	2	..	..	..

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